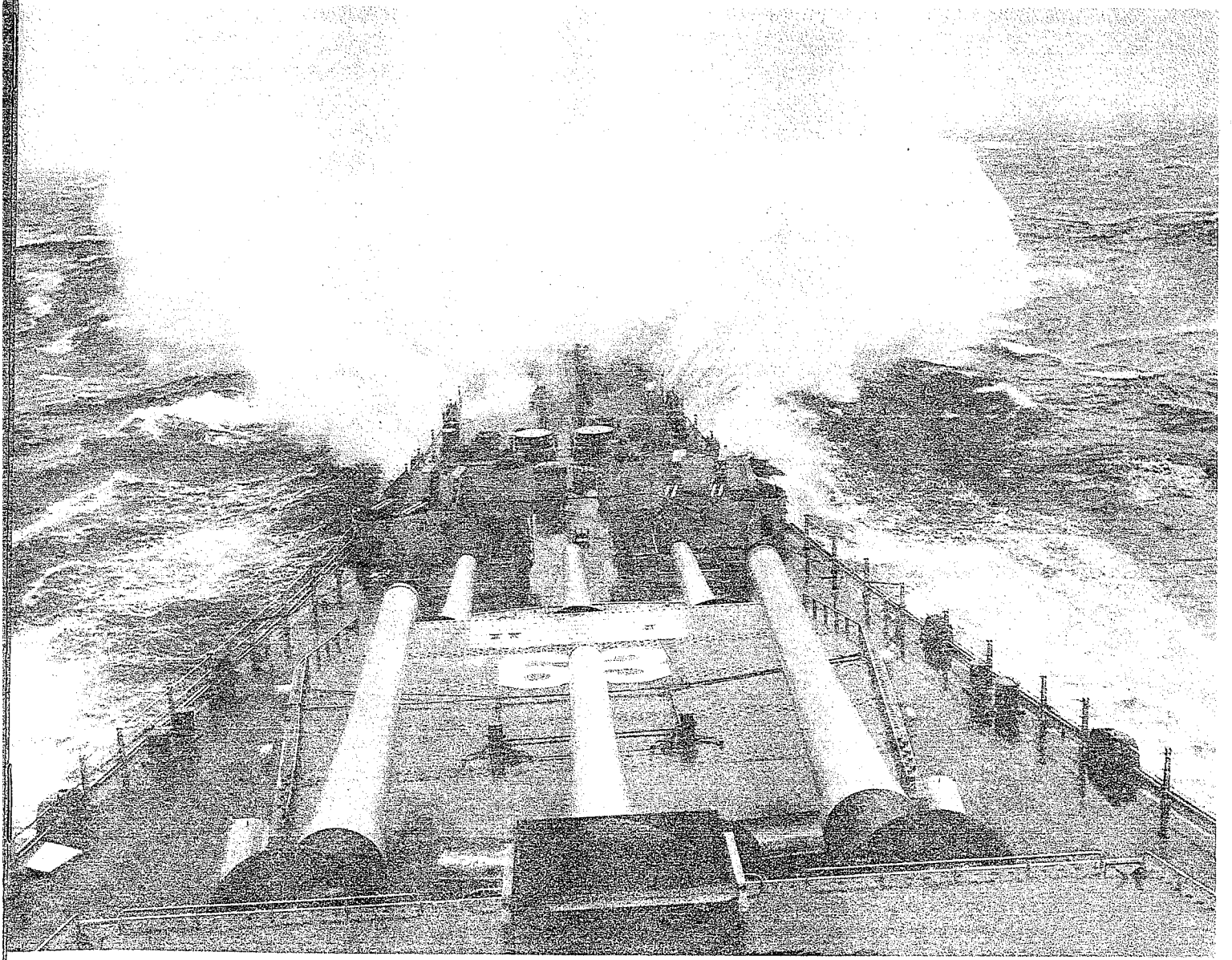
THE BATTLESHIP

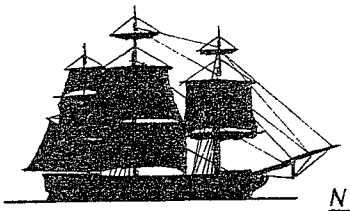
in the United States Navy



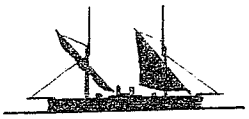
NAVAL HISTORY DIVISION, NAVY DEPARTMENT

Washington, D.C. 1970

A Century and a Half of Battleships



North Carolina – 1818



Demologos – 1815

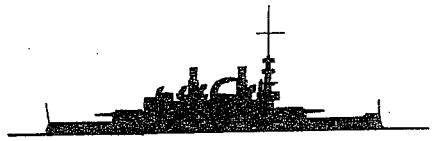
Virginia (Merrimack) – 1862

Monitor – 1862

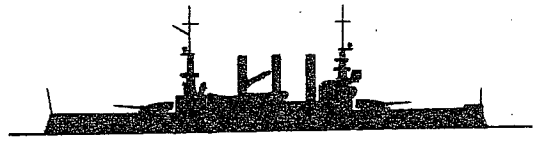
Dunderberg – 1865

Miantonomoh – 1865

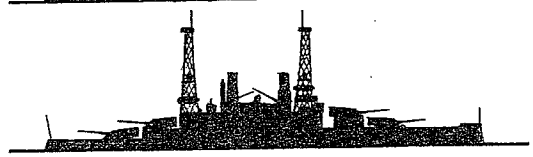
Maine – 1895



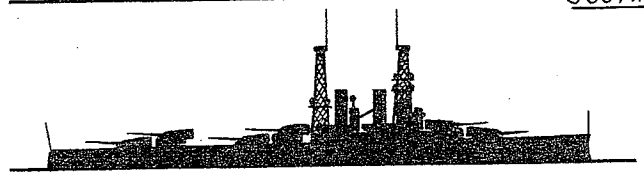
Oregon – 1896



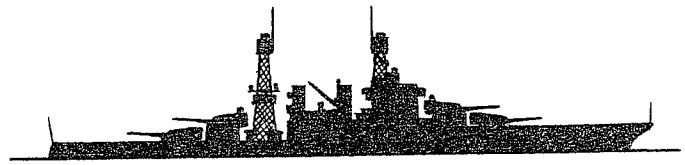
Connecticut – 1906



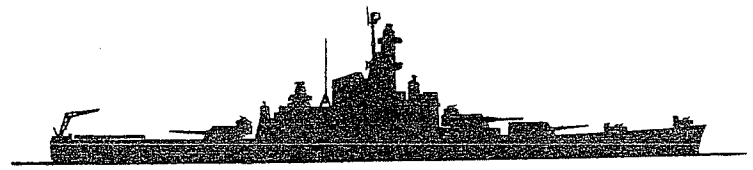
South Cardlina – 1910



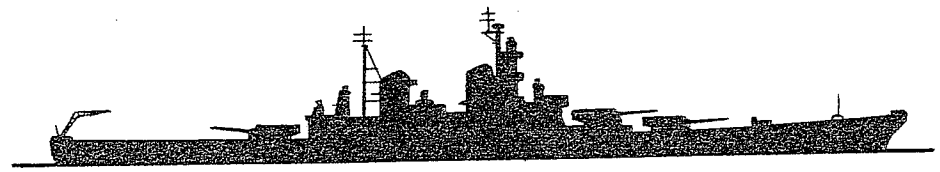
Arkansas – 1912



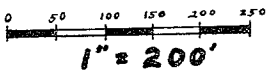
California – 1921



Alabama – 1942



New Jersey – 1943



INTRODUCTION

A nation's strength comes first of all from within the hearts and minds of its citizens. George Washington's words at the Constitutional Convention ring strong and true down through the years:

> "Let us raise a standard to which the wise and honest can repair. The event is in the hands of God."

Founded upon this strong keel of integrity, wisdom, courage and faith the American ship of state has shaped a magnificent course across the years.

Besides these basic strengths, other necessary ones have meant much to the nation but none more so than power afloat. America was born out of the sea. The direction and splendor of her growth have depended in large part upon the influence of navies. In this influence great indeed has been the role of the ship-of-the-battleline. During the colonial period, the American Revolution and the first generations of independence, the majestic ship-of-the-line (ship-of-the-battleline or line-of-battleship) sailed in the forefront of decision of national destiny.

Until 1775 the colonies depended upon the British Navy and its many ships-of-the-line in the struggle of nations. When the colonies broke with the mother country, they had no warships. They quickly developed small ones that played an important part in sustaining the Revolution. These, of course, could not hope to contest the sea with ships-of-the-line. America had to wait for these heavy ships until the Revolution developed into a world war with the entrance of France, and later Spain and Holland, against Britain. Late in the war Admiral De Grasse's fleet of powerful ships-of-the-line defeated the British fleet under Admiral Graves, 5 September 1781 off the Chesapeake Capes. This victory at sea in turn brought victory ashore at Yorktown—and independence. In George Washington's words, seapower was

> "the pivot upon which everything turned;"

and the French ship-of-the-line was the strength of that pivot.

After independence the United States tried to function without a Navy, only to meet loss, humiliation, and contempt. One of the Divine laws seems to be that in this jungle world material strength must accompany that of the spirit for a nation to be respected and to carry out its assigned purpose in the great plan.

The United States thus began to rebuild its Navy, constructing frigates like the famous *Constellation* and *Constitution* and smaller ships to defend her rights at sea. However, after independence made possible by French seapower, she went through two wars and much of a third one before the lesson sank home that she needed a strong Navy that included a nucleus of the largest warships.

Hence in the War of 1812, and just afterwards, Congress authorized a number of ships-of-the-line. The first, long-lived *Independence,* joined the fleet in 1815. She and others of these majestic champions helped maintain peace for decades after the War of 1812.

This brochure briefly recounts the history of the ship-of-the-line and then emphasizes the grand history of its successor in the battleline, the battleship. We have long wanted to tell this stirring story of far-reaching significance to America but had lacked the time to undertake it. Happily, when Capt. Thaddeus V. Tuleja, USNR, came to us for summer reserve training duty he was able to undertake the project. His first and second drafts, refined by our comment, gave us a sound keel. Then Capt. John Dingwell with his usual care and skill shaped a third draft embodying his own ideas and those of a number of us in the Division. This draft in turn was worked over with important contributions by Capt. F. Kent Loomis, Dr. Dean Allard, Mr. Oscar P. Fitzgerald, Comdr. Clayton Johnson, Mr. Donald Martin, Dr. William J. Morgan, Mr. John Reilly, Jr., Mr. Robert Scheina, and Capt. Roy C. Smith. I wish to thank Yeoman Bruce Gupton, Mrs. Phyllis Sherrill, and Mrs. G. Lynn Graul for their effective typing of several drafts. Mr. Robert Scheina and Mrs. E. G. Bowen-Hassell developed the final make-up.

Formidable, majestic, awesome and well-nigh invincible given anything like equal odds, the battleship sailed as the greatest concentration of power man had ever known up to her time.

The battleship as we have known her has passed on as the principal type, though she still has irreplaceable use as demonstrated graphically in Korea and Vietnam. To remain free, however, the United States will always need a powerful fleet. The fleet will always center around strong champions that can hit farthest and hardest while being most effective in defense. Today we have the attack carrier and the Polaris submarine sharing in this role, with the battleship still a foremost contributor in limited war with her tremendous hitting power.

What the future will bring no one can foresee, but the strong surge of the Soviets to world naval power stands out as one of the most grave and sobering events of our time. Hopefully, this little publication will help to make Americans aware of the key importance of seapower in survival and the need to have a balanced fleet built around champions of their time.

E. M. ELLER.

The Battleship in the United States Navy

L.C. No. 72-604171

Cover:

USS *Missouri* (BB-63) plows through heavy seas.

80G427195

BATTLESHIPS

Even before written history sails out of the misty past, seapower shaped the destiny of man. Since the beginning of time the sea has stirred and challenged him. It has brought horizons of freedom, highways of trade, battlegrounds untold—and in its depths lie countless sailors lost in combat or to the perils of the sea.

1. CHAMPIONS OF THE SEA

"Whoever is master of the sea is master of all things."
—*Thucydides.*

To control the sea, man built warships of many shapes and sizes. Seapower early became a factor in the growth of nations. As civilization flourished and technology brought better ships, navies grew in influence. The fighting ships evolved into fleets. These have always needed heavyweight champions, powerful warships in the front line of battle that can hit the hardest and take the most punishment—for war demands the ability to take as well as to give.

In ancient times the *trireme* took the van in a sea fight—the "battle ship" of the time. In Sir Francis Drake's day a lower-castled, blunt-nosed warship, mounting powerful long-range cannon, brought defeat to the Spanish Armada. The extensive use of sails in this battle, rather than sweeps, presaged the era of line of battle ahead. The concept of "heavy ships fit to lie in the line of battle" as distinguished from lesser types developed as the next step. Early in the 17th century the champion became the line-of-

Ark Royal, a low castled and blunt-nosed warship, was the British flagship at the defeat of the Spanish Armada in 1588.

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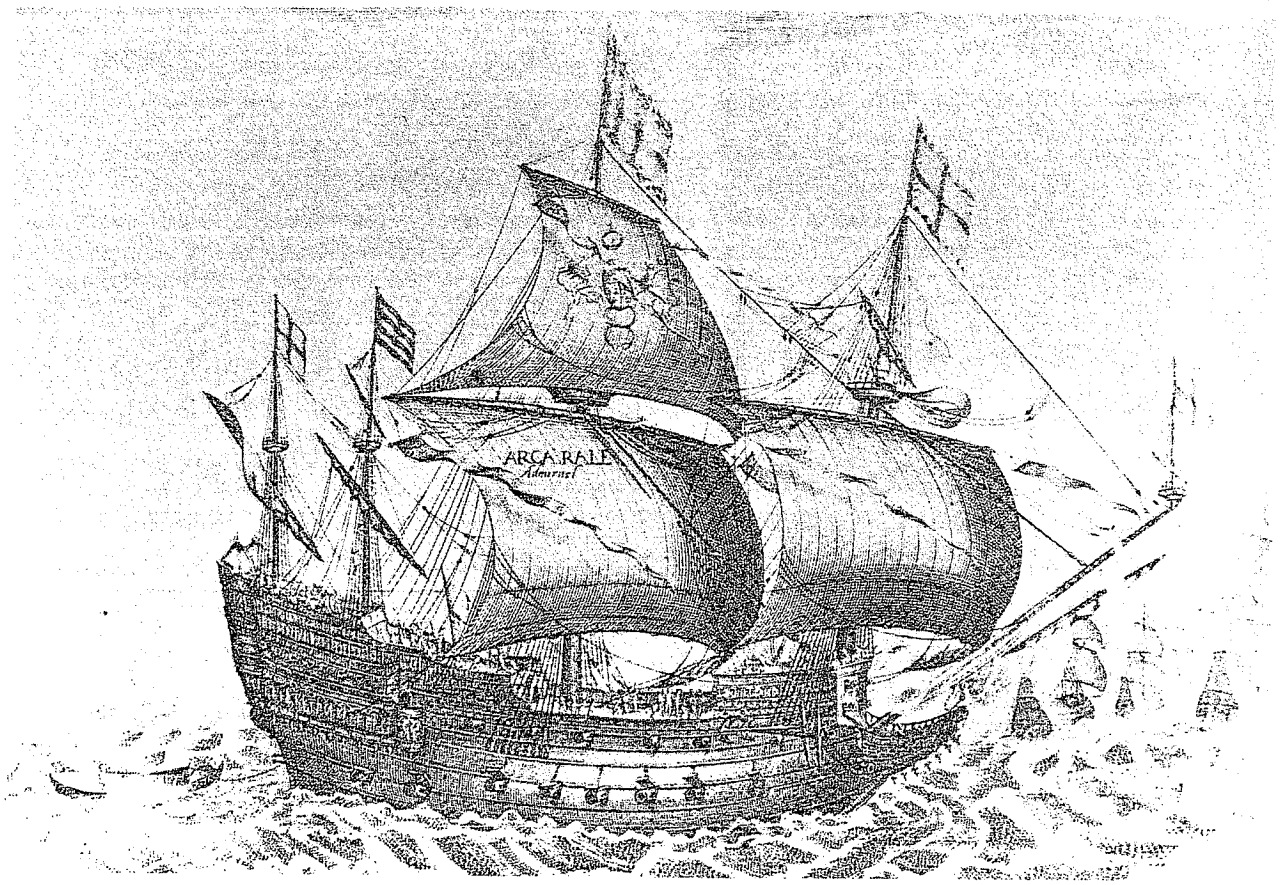

battleship, or ship-of-the-line (ship of the battle line), a far ranging and imposing fortress carrying 64 or more heavy cannon. The high-sided giants also had remarkable defensive qualities in their "armored" sides—oak timbers, 16-inches thick or greater.

This became identified as a distinct type well before the mid-18th century when British Adm. Lord Anson defined a ship-of-the-line in the Royal Navy as one mounting at least 74 cannon.

As warships grew in size they increased in rated strength, some to more than 120 guns. Their tactical principle of line of battle ahead, with devastating broadside firepower dominated naval warfare into the 20th century. These were the heavyweights which won momentous sea fights decisive in shaping the course of history for all time—like Admiral De Grasse's victory over the British at the Virginia Capes that made Yorktown and American independence possible, and Lord Nelson's victory at Trafalgar that set the stage for a century of peace from world conflict.

2. AMERICAN SHIPS-OF-THE-LINE

"without a Respectable Navy—Alas America!"
—*John Paul Jones.*

The story of the first American battleship properly begins with *America,* classed a 74-gun ship-of-the-line, the first battleship built in North America. Completing as independence approached, she was given to France in 1782 to replace the French ship-of-the-line *Magnifique* lost in Boston Harbor by grounding.

Three smaller warships that survived the American Revolution were auctioned off, the last in 1785. Thus, the United States began its national career without a single warship. Many, like Washington, recognized seapower as an essential ingredient of national security and greatness, but many also opposed a Navy, some because of the impoverished state of the economy.

Without protection American commerce suffered shamefully. Barbary pirates captured ships and en-

USS *Washington* launched in 1814 was one of our first 74-gun ships of the line. Realizing the need for the big-gun ship, the U.S. rushed *Washington* and sisters to completion; however, they were too late to serve in War of 1812.

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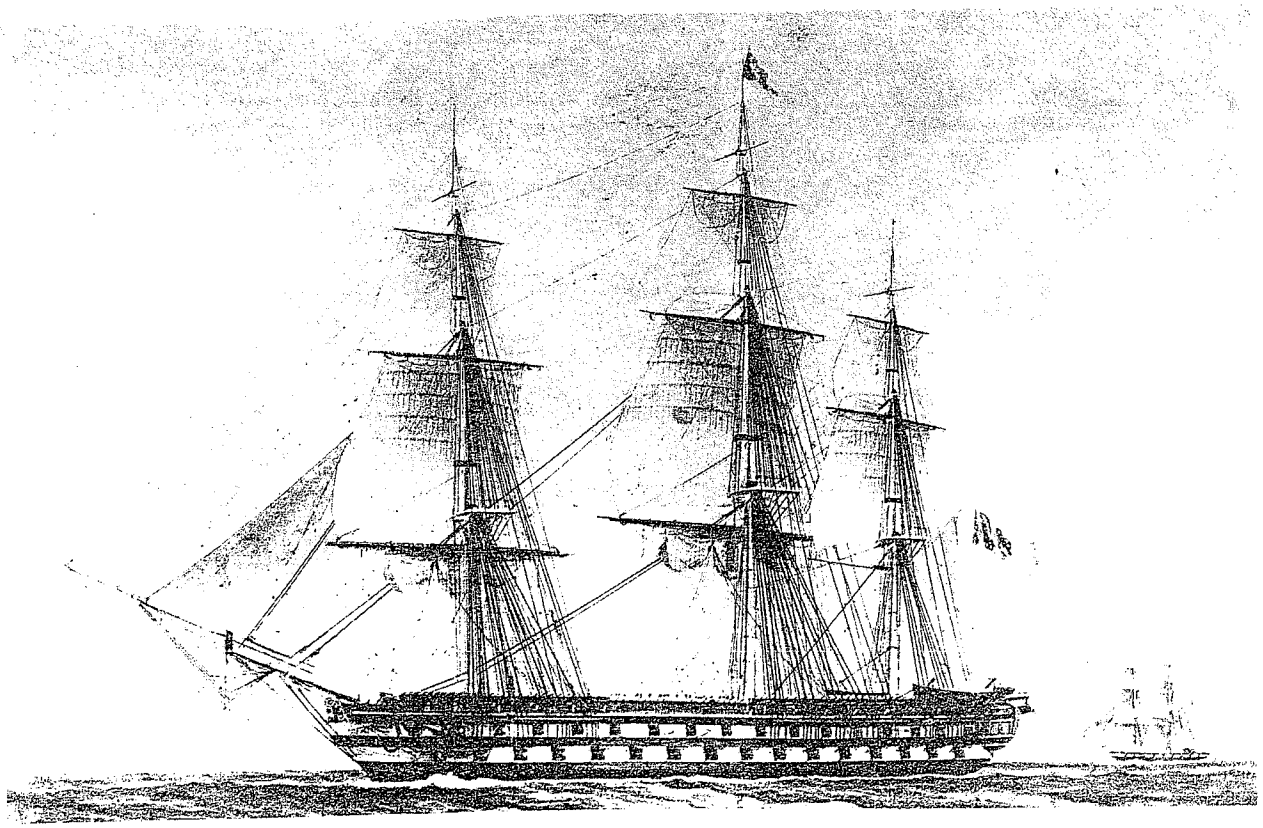

slaved crews. As the French Revolution spread into the holocaust of the fifth world war of the 18th century, the French and British Navies, privateers, and Mediterranean corsairs preyed on defenseless Americans. This led to rebuilding the Navy in the 1790's, the Quasi War with France, and the Barbary Wars.

During these wars, and the War of 1812, the United States, still hampered by the need for economy, handicapped by time for construction, relied on a "Frigate Navy" bolstered by converted merchantmen, a few schooners and sloops-of-war. The frigates, typified by famed *Constitution* and *Constellation,* were the strongest of their types in the world. Though officially rated a 44-gun frigate, *Constitution* was originally armed with 52 guns. The length and breadth of her hull was only slightly less than that of a small ship-of-the-line. When the hard fighting Navy under leaders like Edward Preble, John Rodgers, and Stephen Decatur won peace in the Mediterranean in 1805, Jefferson's policy of coast defense restricted new construction largely to gunboats, a few brigs, and sloops-of-war. Thus, the United States entered the War of 1812 with the handful of frigates of the 1790's as the largest ships available to match the awesome British Navy.

This struggle against great odds showed the glaring need for large warships. Legislation of 2 January 1813 authorized construction of the U.S. Navy's first ships-of-the-line, although none was completed in time to serve during the war. Commonly called the *Independence* class, they were *Independence, Washington, Franklin,* and *Columbus.*[1] Subsequent acts authorized others for a total of 14. Reduction of funds after the war brought slowdown or complete stoppage of construction. Four never left the stocks. Others were not completed until decades later.

After defeating Napoleon, through control of the sea Britain gave mankind a century of freedom from the world wars that had kept civilization in tumult most of the time from before the American Revolution to Waterloo. In this benign environment the United States flourished. Her magnificent new ships of the line happily had no fleets to combat. Yet navies also serve, and well indeed, in the quiet hours—discouraging aggression, stamping out small conflicts before they became raging ones, keeping the peace, protecting commerce and national interest, conducting diplomatic or scientific missions, developing prestige, encouraging justice, order and liberty.

These great prototypes of the modern battleship undertook a variety of operations that were to impress the world with growing American power. *Independence* was the first U.S. Navy ship-of-the-line to make a foreign cruise. She passed through the Straits of Gibraltar in 1815 to add her striking power to the Mediterranean Squadron, forerunner of today's mighty 6th Fleet. Her mere presence gave increased prestige to the United States and insured that Barbary pirates would not cruise again to capture American ships and enslave their crews. After she left for home other ships of the line joined a succession of Mediterranean squadrons in the peace-keeping role. Her sister ship *Washington* (built in 1813), cruised with the Mediterranean squadron until 1818, followed in turn by *Franklin,* then *Columbus.* The razeed [2] *Independence* served the U.S. Navy in the "Sea of History" and elsewhere for nearly a century while *Columbus* had the distinction of carrying Commodore James Biddle to ratify our first commercial treaty with China,[3] thence to Japan in the endeavor to effect a similar treaty in 1845.

The Act of 29 April 1816 had resulted in the *North Carolina* class of ships-of-the-line. Like the frigates of the 1790's, they were superior in potential force to similar vessels of any other nation. *Ohio,* of this class, had such impressive seagoing qualities that a British officer called her the "perfection of a line-of-battle-ship."

The taut bearing, powerful armament, and appearance of invincibility of these ships lent meaningful support to diplomatic negotiations wherever they sailed. Commodore John Rodgers was sent to the Mediterranean to open diplomatic negotiations for a treaty with Turkey. Rodgers' command, *North Carolina,* deeply impressed numerous Turkish visitors to the ship, an important factor in making his mission eminently successful.

Many of these stately ships served more than one tour in the Mediterranean. In between, powerful

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[1] *Columbus* completed as *North Carolina* class.

[2] Razee—To reduce a ship in rate by removing her upper deck, thus reducing her armament. A ship-of-the-line thus cut down was called a "razee."

[3] Commodore Kearny in *Constellation* had negotiated the treaty in 1842.

ministers of peace, they served elsewhere as in the Pacific Squadron, which covered the vast area from the coast of Chile to San Francisco and westward to the Hawaiian Islands and Samoa. *Franklin,* after her Mediterranean cruise, operated off the coasts of Chile and Peru, safeguarding the interests of American whalers, while *Independence,* after many tours in many seas, finished her seagoing career making Pacific patrols.

These battleships of that day likewise patrolled the eastern coast of South America in the Brazil Squadron serving American interests there. They sailed across the Gulf of Mexico during the Mexican War and landed sailors in operations that contained many of the rudiments of the resistless amphibious assaults of World War II. They brushed shoulders with royalty. *Washington,* in 1817, entertained Prince Henry of Prussia; and hard sailing *Independence,* present in England at the start of Queen Victoria's long reign in 1837, reached Kronstadt later that year to receive on board the Tsar of Russia, Nicholas I. *Columbus* sailed around the world after carrying Commodore Biddle to the Far East.

Manned by strong men, these sailing battleships were strong of timber too, as *North Carolina* proved. In the Mediterranean, she ran into a vicious storm that lasted 19 days. Howling winds lashed the sea into a cauldron. Spindrift, laced with snow and hail, tore like a whiplash through the rigging, ripping the sails to shreds. More than 15 sailmakers, day after day, stitched up rent canvas. Once a shaft of lightning struck the ship and flattened 20 men on the quarterdeck. Then an epidemic of smallpox swept through her, packing the sickbay with officers and men. Provisions dwindled; soon there was nothing left to eat but bread and water. Rodgers nevertheless brought *North Carolina* through the violent storm and anchored her off Malta, a tribute to his skill and the ship's seaworthiness.

Ships-of-the-line still cruised at sea when the Civil War began, though two were broken up before 1861 and three were burned at Norfolk to prevent capture by the Confederates. In their old age, the last survivors served as receiving ships or similar duty until time erased them from the Navy list, the last, *Alabama* (renamed *New Hampshire* and later *Granite State*), in 1921. These ships were the very heart of the U.S. Navy. They plowed their way across thousands of miles of ocean under great spreads of canvas to keep the United States secure as she grew toward world leadership. They deserve warm remembrance in the bright annals of the Navy's service to America.

USS *North Carolina,* first of the improved ships of the line, off Cape Zemble during a gale in 1824, Commodore John Rodgers in command.

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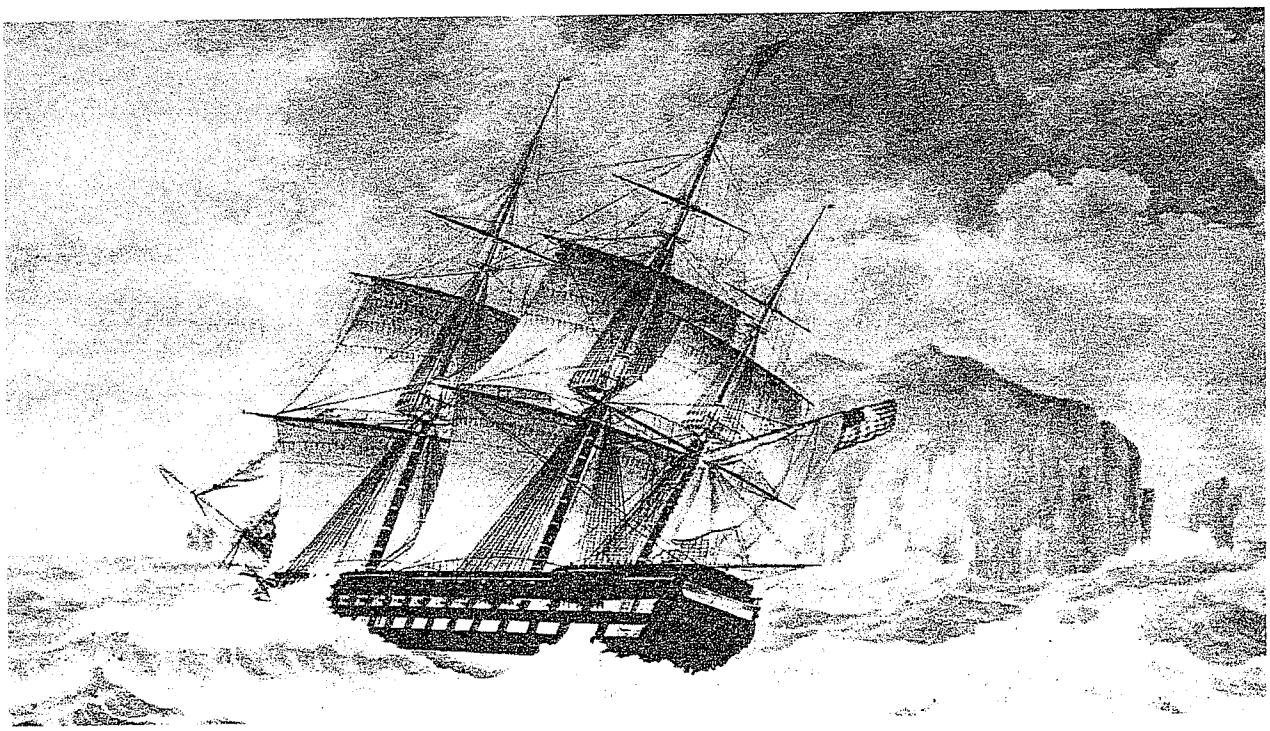

3. EVOLUTION OF THE BATTLESHIP—PRE CIVIL WAR

"Now comes the reign of iron—and cased sloops are to take the place of wooden ships."
—*John Dahlgren.*

It was not time alone that displaced the magnificent ship-of-the-line—it was steam, the rifled gun, and iron and steel ship construction speeded up by the introduction of the more lethal explosive shell. The advent of electricity and other technological developments steadily added to the powers of navies.

As early as 1814, when *Independence* launched, Robert Fulton built a strange new steam warship to defend the sea approaches to New York against British attack. This was 7 years after his steamboat *Clermont* made her famous cruise up the Hudson River.

The new warship was called *Demologos* by her inventor; the Navy called her the steam frigate *Fulton*. She had a catamaran hull with stout bulkheads, a protected paddle wheel, and an engineering plant set deep inside. Although built for harbor defense only, with short cruising range, her size almost equalled the ship-of-the-line, while her battery of 32-pounders gave her heavy striking power. Her greatest virtue was that she did not depend on the wind—but, on the other side of the coin, she had limited cruising range because of fuel requirements.

Steam propulsion came slowly to the high seas because of many problems besides low powered, often faulty engines and boilers, and frequent breakdowns. Crucial among these were high fuel consumption with resulting short cruising radius. Thus, during the next 20 years little could be done to adapt steam to ocean going warships which had to keep the sea for long periods.

NRL(O)3362

Robert Fulton

As steam plants improved, the Navy ordered a second steam frigate in 1835, and commissioned her 2 years later. Also named *Fulton,* she displaced 1,200 tons, was propelled by side wheels and carried towering smoke stacks. Steam plants still lacked sufficient power and reliability, and devoured too much fuel limiting the radius under steam. Furthermore,

Steam battery *Fulton* is launched at New York, 29 Oct. 1814.

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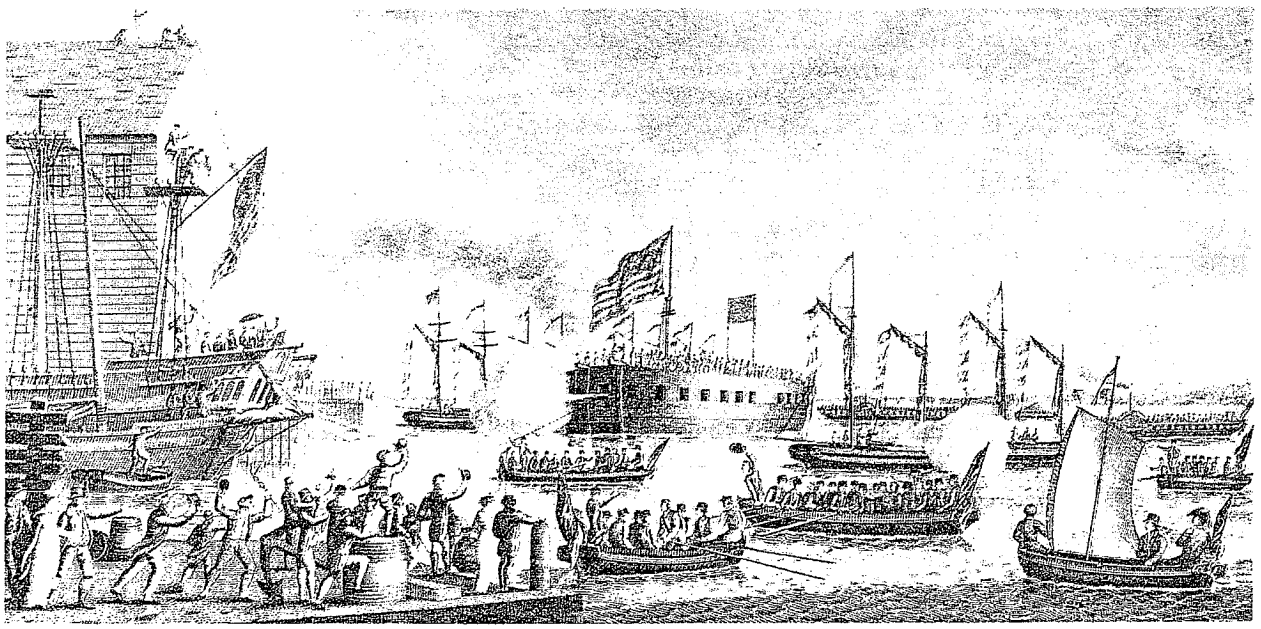

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Commodore Robert F. Stockton

NRL(O)8070

John Ericsson

the vulnerable paddle wheels could easily be knocked out in battle. *Fulton* was therefore also rigged with masts and yards. New technology in engineering design was clearly needed. It was thus logical that for some years to come, in navies with world duties steam plants operated auxiliary to sail.

Early in the days of steam, men conceived of screw propellers but their successful development awaited further scientific progress and the skill of naval architect, John Ericsson. Learning of Ericsson's experiments in England, Capt. Robert F. Stockton, USN, enthusiastically brought him to America. Working together they designed the first screw-driven warship, U.S.S. *Princeton,*[4] launched in 1843. By midcentury steampower and the screw propeller, two essential elements of the modern battleship, were standard in U.S. Navy warship design.

In the 1850's most steam frigates could make little better than 9 knots, but the Civil War provided a strong impetus for the further development of steam power. In 1861, Secretary of the Union Navy, Gideon Welles, disclosed that no sailing ships had been ordered for the northern Navy, "for steam as well as heavy ordnance has become an indispensable element of the most efficient naval power."

The next step in development of the modern battleship was armor. Before steel ships were designed, the Navy experimented with iron plating fixed to the hulls of wooden ships. It was used in the most revolutionary naval battle of the 19th century, the clash between U.S.S. *Monitor* and C.S.S. *Virginia* (Ex U.S.S. *Merrimack*). This was more than a battle for it gave birth to a new breed of fighting ship.

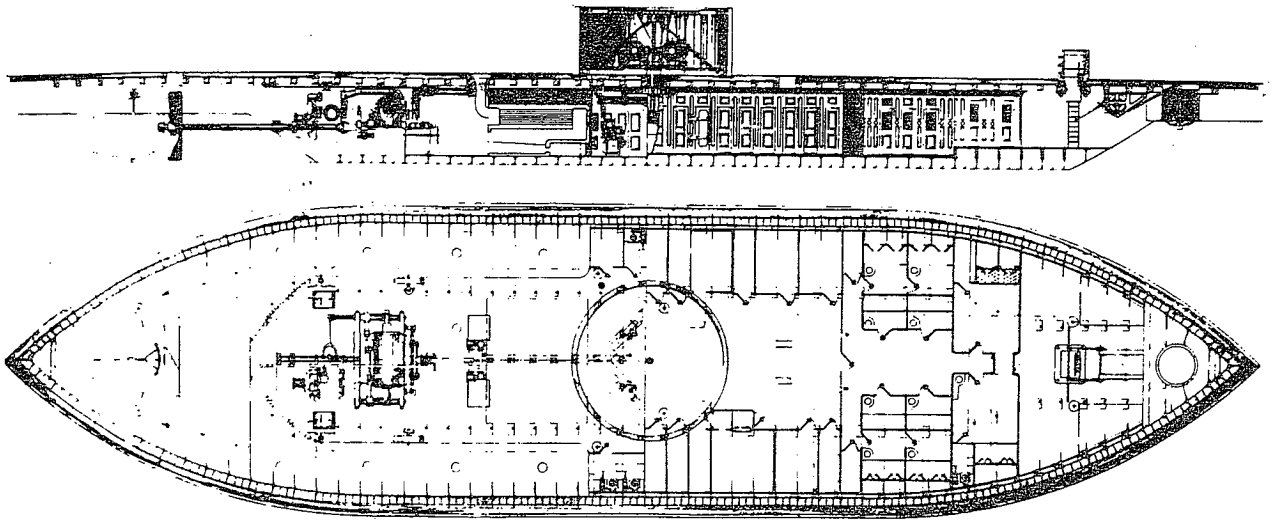
Merrimack, a steam-driven, screw-propelled frigate, was scuttled at Norfolk just before the Confederates captured the navy yard. The Confederates salvaged hull, machinery and guns, and decked her over with a raked casemate which, along with her exposed bow and stern, was sheathed with iron plate. Her guns protruded through ports cut in the casemate. The bow was fitted with a heavy submerged ram. Renamed *Virginia,* she was to strike one of the first devastating blows of the war at sea.

Steaming across Hampton Roads on 8 March 1862, she drove her ram into the side of the Union blockading frigate *Cumberland,* sinking her, then destroyed *Congress* by gunfire. The Confederate ironclad slipped away from a bombardment of Union shore batteries, patched up damage, and was ready the following day to attack the remaining blockade ships. Consternation swept the North with wild rumors of *Virginia* sailing to attack Washington or New York.

Meanwhile, the Union Navy had been constructing *Monitor,* one of three ironclads designed to counter the Confederate naval challenge. Her wooden hull and deck, as with *Virginia* were protected by heavy iron plate, but there the similarity ended. In contrast to *Virginia*'s iron-sheathed casemate, *Monitor,* the "cheese box on a raft," had a revolving steel turret that housed two powerful 11-inch guns.

Monitor, almost sinking in heavy seas on the voyage from New York under tow, arrived at midnight—in the nick of time. The next morning, 9 March, these two strange ancestors of the 20th century battleship met in Hampton Roads. Hot and

[4] She also boasted several other "firsts".



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Monitor was designed with a wooden hull plated with iron and a revolving steel turret.

The encounter of the ironclads, *Monitor* and *Virginia* (ex *Merrimack*), 9 Mar. 1862, starts a worldwide revolution in sea warfare leading to the modern battleships.

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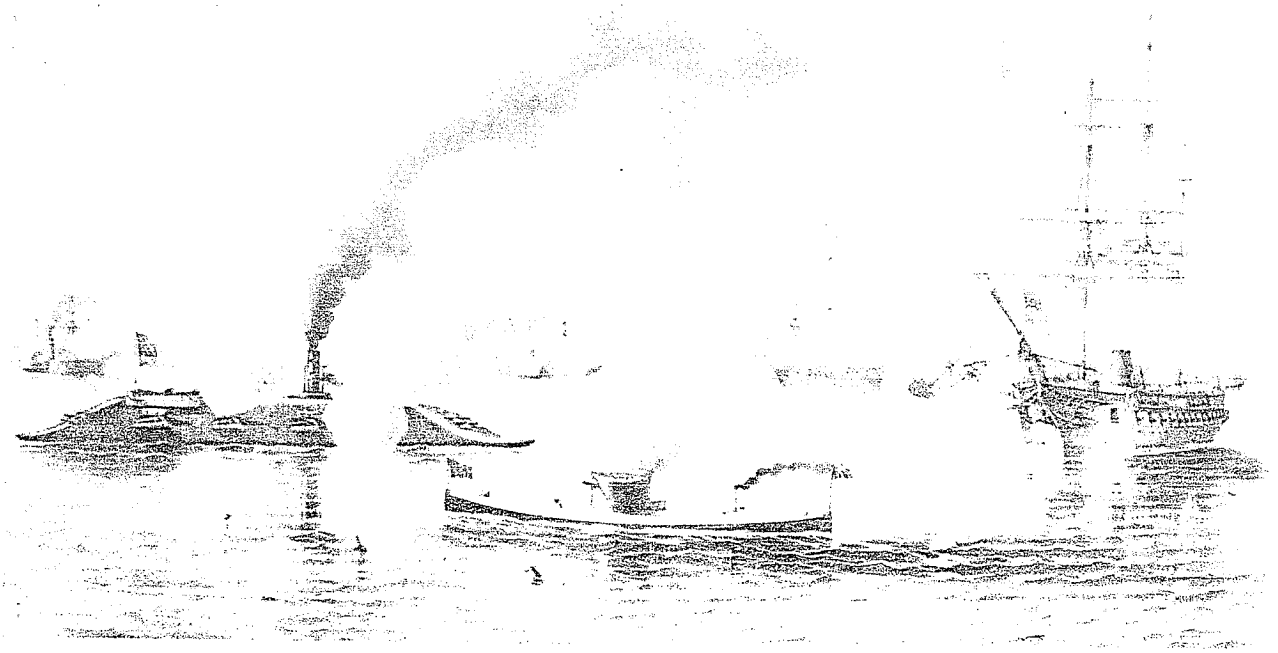


heavy the historic seafight thundered on for 4 hours, with neither ship seriously damaging the other. Toward noon, they broke off the engagement.

It mattered little whether one or the other could claim victory. The effect was electrifying and immediate upon all naval powers, speeding up a revolution in sea warfare that would lead to the great battleship fleet of the 20th century. When news of the engagement reached England, the *London Times* noted that with the exception of two British ironclads, *Warrior* and *Black Prince,* the Royal Navy did not have a single war vessel "that it would not be madness to trust to an engagement with the little *Monitor*." The day of wood and sail had ended. A new era had come for seapower.

4. EVOLUTION OF THE BATTLESHIP—POST CIVIL WAR

"The Navy of the United States is the right arm of the United States and is emphatically the peacemaker. Woe to our country if we permit that right arm to be palsied or even to become flabby and inefficient."

—*Theodore Roosevelt.*

The use of steel armor in warship construction during the second half of the 19th century made it imperative to develop ever better guns and a long-ranged, armor piercing projectile. This was done by "rifling," spiral grooves that impart a violent twist to the projectile, spinning it in flight, increasing velocity and accuracy.

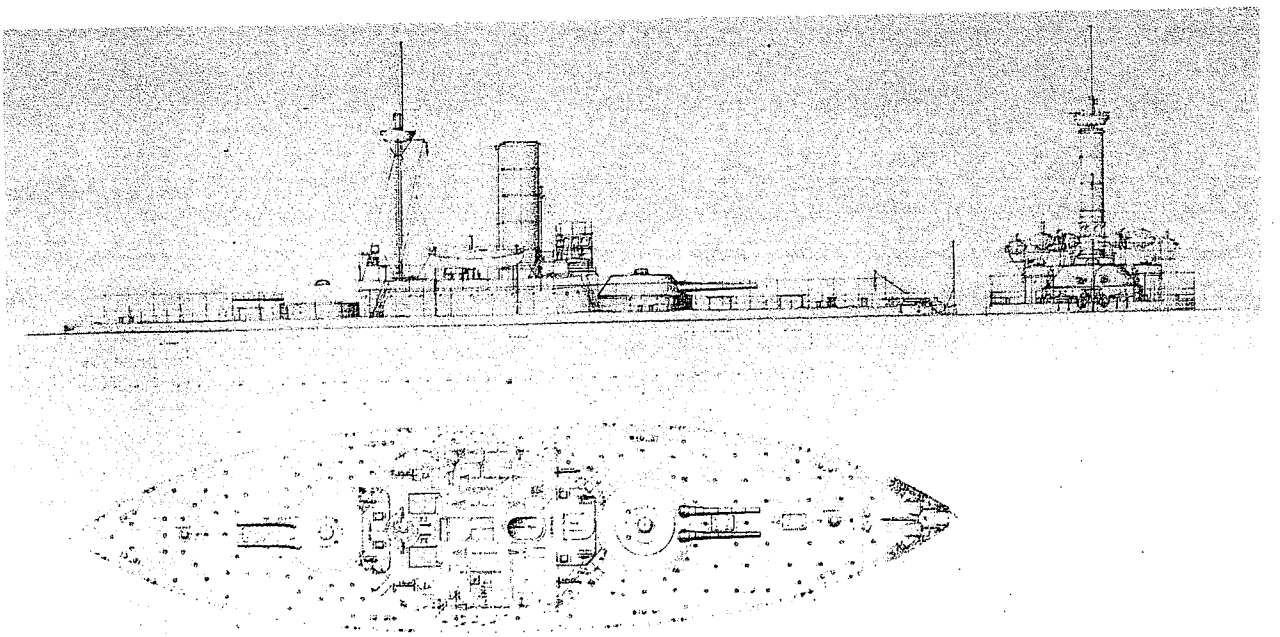
Rifling was known in the pre-Civil War Navy (*Virginia* carried two rifles), but because of difficulty in building satisfactory breech systems, and other problems, muzzle loading smoothbores remained standard naval armament for about 15 years after the Civil War. In 1880 the U.S. Navy manufactured the first hooped, or built-up, high powered rifled gun. It was a 6-inch breecher-loader that could fire a 70-pound projectile with accuracy and range far exceeding that of the old smoothbore muzzle loaders. These guns were mounted in *Atlanta, Boston,* and *Chicago,* part of the so-called "White Squadron" of the new Navy.

During these years the *Monitor* type (of which the U.S. Navy built 64, including river *Monitors*) gradually merged in construction with the casemated *Virginia* types toward the modern battleship.[5]

[5] The transition shows interestingly in Naval History Division's *Dictionary of American Naval Fighting Ships,* Vol III, app. 2, and in its brochure "Monitors of the U.S. Navy 1861–1937." Not all these commissioned.

USS *Monterey*

NRL(O)17682



The *Monitor,* first developed for coastal defense, represented several departures from traditional shipbuilding. The wide beam, in theory, contributed to the stability of heavily armored guns in revolving turrets. Machinery spaces, even the anchor gear of earlier *Monitors,* were protected. Forced ventilation was introduced for living and working spaces that otherwise became unbearable—the crew reported temperatures in the fireroom of U.S.S. *Manhattan* in the Battle of Mobile Bay as high as 150°.

It was soon recognized that, while having the advantage of a more stable gun platform in smooth seas, the low freeboard *Monitors* lost that advantage in a seaway. They continued in use, however, for harbor and river service after the Civil War. In 1882 a new type, with more freeboard and upperworks launched. Later *Monitors* built through the turn of the century had markedly higher superstructure, two heavy guns turrets, and living spaces above the main decks.

Monitor, completed in 1861, gave her name to the type. Some in the U.S. Navy, as well as other navies, continued in use through World War I—as submarine tenders in the U.S. Navy.[6] All had relatively great beam in proportion to length. The first *Monitor,* which mounted two 11-inch (smoothbore) guns in a turret, was 172-feet long with a beam of 41½ feet. *Monterey,* completed in 1893 (a familiar sight in full commission at Pearl Harbor after World War I), was only 200 feet in length with a beam of 59½ feet. She mounted two 12-inch and two 10-inch guns in two turrets. Turret armor was 8 inches, side 13 inches. A later class (*Arkansas, Nevada, Florida,* and *Wyoming,* later renamed *Ozark, Tonopah, Tallahassee,* and *Cheyenne*), launched during 1900 and 1901, were 255 feet long with a beam of 50 feet, mounting two 12-inch guns and numerous 4- and 6-pounders. Turret armor was 12 inches, side armor 8 inches. Aside from lower freeboard, the profiles of the last monitors were not unlike those of the early battleships; both had heavy main-battery guns in armored turrets and side armor protection.

At the same time, real progress was made in steam engineering, leading to development of the turbine engines and reduction gears of 20th century battleships. By 1871 the double expansion engine arrived, followed a few years later by the verticle triple expansion engine which propelled the Nation's first battleships. In 1897 the turbine engine appeared, and 9 years later became the propulsion machinery of the first turbine driven battleship, H.M.S. *Dreadnought.*

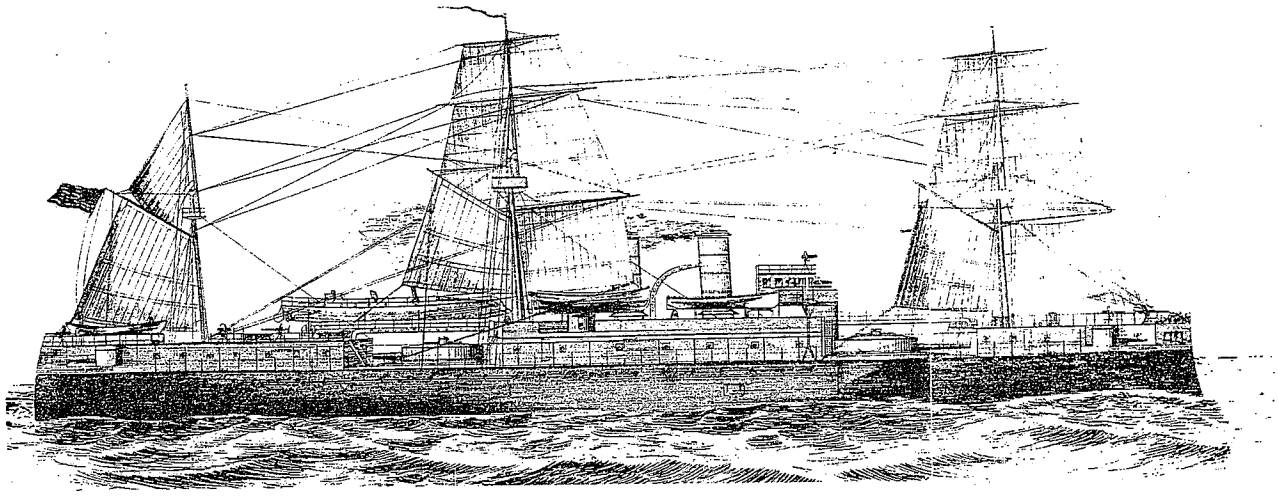
But the modern battleship, now coming into view, was still "hull down" on the horizon. Realizing that foreign navies were forging ahead in gunnery, officers of the U.S. Navy worked hard to keep America in the race. To conduct advanced ordnance experiments they at first had to import smokeless powder from Germany, armor piercing shells from France, and high-powered guns from England. Congressional resistance to appropriating for a first-class fighting Navy was a reaction to the lingering effects of the Civil War.

But change had to come if the United States was to fill her responsibilities in the titanic events taking shape. Developments of immeasurable historic impact converged during the last decades of the 19th century. The United States' economy, population and industry expanded in flood tide. Meanwhile a surge of technological advances brought the submarine and airplane that would take navies under the sea and into the heavens. The battleship evolved as the capital ship of an era in which challengers to Britain's rule of the sea appeared, with autocracy not freedom as their goal. Liberty was on the eve of grave trials. Would the new leader in the West be ready?

Happily, opposition to expenditures for a strong Navy declined. Congressional appropriations in 1886 included two armored warships *Texas* and *Maine.* To eliminate dependence on foreign steel imports the bill followed the practice started in the 1880's of requiring that new warships be built of steel manufactured in this country. This provision gave impetus to the infant American steel industry. The American companies thus prompted to manufacture steel plate, armor, and guns for the new ships readily turned their new technical knowledge to many civilian uses.

The Navy experimented with steel armor for its new ships. The three types available included a combination of steel and wrought iron bolted sheets, common steel plate, and finally a new steel and nickel alloy. Standing up far better under test firing than the others, nickel steel alloy won out for future battleship construction. This represented a key phase in the evolution of the American battleship. *Texas,*

[6] World War I monitors *Erebus, Terror,* and *Marshal Soult* served on in the British Navy in World War II (*Terror* was lost in action in 1941). The Royal Navy built its last two monitors—*Roberts* and *Abercrombie*—in 1940–43 for shore bombardment work.



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USS *Maine,* as originally designed with sails, represented a key phase in the evolution of the American battleship. She was one of the first two U.S. vessels to be constructed of a new and stronger steel and nickel alloy.

commissioned in August 1895, carried two 12-inch guns, displaced over 6,000 tons, steamed at 17 knots and had a 12-inch armor belt. *Maine,* commissioned during the following month, was similar except that her main battery consisted of four 10-inch guns.

Texas and *Maine* were followed by the Navy's first true battleships, *Indiana* (BB–1),[7] *Massachusetts* and *Oregon,* "Seagoing coast-line battleships designed to carry the heaviest armor and most powerful ordnance."

Commissioned in 1895, *Indiana* had four 13-inch guns and displaced more than 10,000 tons. These three ships became the first units of the growing battle fleet the United States needed to protect its seagoing trade, overseas interests and sovereign power against the expanding European navies.

During this same period Alfred Thayer Mahan, a scholarly naval officer who had acquired world repute as naval historian and philosopher of seapower, emphasized the need of the capital ship to control the sea. In time of war the United States required a strong battle fleet of the most powerful ships, sustained by overseas bases, that could overpower the enemy's fleet in decisive actions. Otherwise America's coasts, and not distant shores, would suffer the disasters of war. Mahan counseled the development of a large merchant marine that would receive the protection of naval power during peacetime and support the navy logistically during wartime. He envisioned not only a great naval force for the country, but the extension of her influence throughout the globe as she grew towards world leadership.

Rear Admiral Alfred Thayer Mahan.
NRL(O)730

Iowa, America's fourth battleship, commissioned in June 1897, just 2 months after Theodore Roosevelt had taken office as Assistant Secretary of the Navy. His hand at the helm was a salutary event for the nation's naval strength, for Roosevelt had become a devoted advocate of Mahan's doctrine.

As the world war against Napoleon ended in 1814, the United States for the first time was beginning a fleet of the "battleships" of the period—the majestic ship-of-the-line. Now nearly a century later as World War I of our era ominously approached, the United States was more forehanded. She was buttressing her seapower, against the un-

[7] Commencing in 1920 U.S. Naval vessels were designated by symbols which identify the vessels by type: BB for battleships, DD for destroyers, CA for heavy cruisers, SS for submarines, etc. Numerals following the letters are consecutive numbers according to authorization. Lower numbers, therefore, denote earlier ships.

known demands ahead, with the 20th century battleship—the grand, rugged, and hard hitting champion we have known.

This was none too soon. The Spanish-American War unfolding in nearby Cuba drew the new fleet into its baptism of fire. For decades, the history of Cuba had been scarred by insurrections. Several times the United States and Spain moved dangerously close to war over the Cuban situation. Early in 1898 conditions in Cuba were such that *Maine,* not yet 3-years-old, was sent to protect American interests. On 15 February, while she lay off Havana, an underwater explosion sank the ship with loss of 253 men. On 21 April, after fruitless exchanges, the United States declared war.

In the Far East Commodore George Dewey promptly sailed from Hong Kong and early in the morning of 1 May led his cruiser squadron into Manila Bay to a swift victory over the Spanish under Rear Adm. Patricio Montojo. It was a decisive step toward the United States becoming a Pacific power.

Another naval battle shaped up half around the world off Cuba. A second Spanish squadron, under Rear Adm. Pascual Cervera, had been bottled up in Santiago Harbor by U.S. blockading forces under Rear Adm. William T. Sampson. Meanwhile *Oregon* (BB–3), with her powerful 13-inch guns, sped around Cape Horn from her northern Pacific station—left hastily on 19 May. She completed the 14,000-mile dash in record time and joined Sampson's squadron before the Battle of Santiago.

Guarded by the Navy, troops under Gen. William R. Shafter landed to move against Santiago while Admiral Sampson maintained his blockade of Cervera's squadron. On the morning of 3 July the final naval drama opened when the Spanish fleet gallantly tried to break through the American barrier of battleships and cruisers. The battle did not end until all Spanish ships were beached or sunk—a naval victory no less striking than Dewey's 2 months earlier. Paying tribute to the brilliant part the Navy played during the war Theodore Roosevelt commented that, "* * * it is not possible to improvise a Navy after war breaks out. The ships must be built and men trained long in advance * * * . It was forethought and preparation which secured us the overwhelming triumph of 1898."

The advanced building and training he spoke about had special significance due to technical developments within the Navy. Not only was there

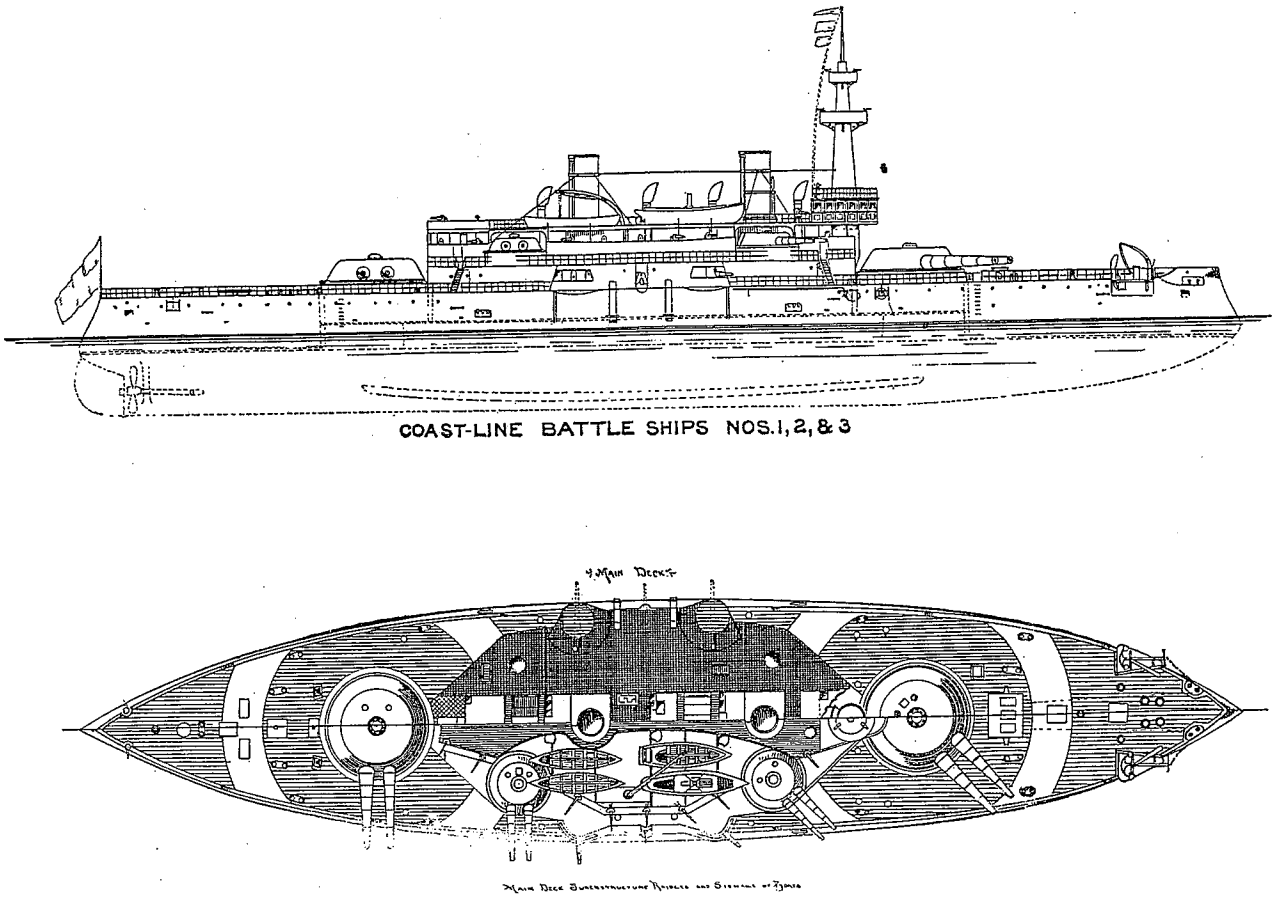
NRL(O)17723
Theodore Roosevelt, Asst. SecNav

increased demand for technically trained officers but new ratings had to be created to meet the requirements of modern ships—electricians, boiler tenders, shipfitters, etc. Radio operators were added to the fleet as high-powered wireless bound ships and shore stations together in a growing communication system. Advances in gunfire control, gunsights and rangefinders called for highly trained gun crews and fire-controlmen of unique abilities. Still later, when battleships were fitted with scouting planes and catapaults, naval aviation was added to the battleship's capabilities—and later still the magic effectiveness of radar.

The Spanish-American War marked a turning point in the history of the United States. It demonstrated again indisputably that her role in world affairs rested heavily on seapower. With Europe engaged in a naval arms race at the turn of the century, it followed that American seapower had to be built around the battleship, mightiest warship afloat. Finally, the war increased the national responsibilities by acquisition of the Philippines, Guam, and Puerto Rico. Suddenly the United States had become a world power.

Theodore Roosevelt, former Assistant Secretary of the Navy and hero of San Juan Hill, served as President McKinley's running mate in the election of 1900. McKinley's death at the hands of an assassin made Roosevelt president. He brought the great benefits of his understanding of the indispensable need for the nation to be strong at sea to carry out her duties and destiny for freedom.

During President Roosevelt's first term in office

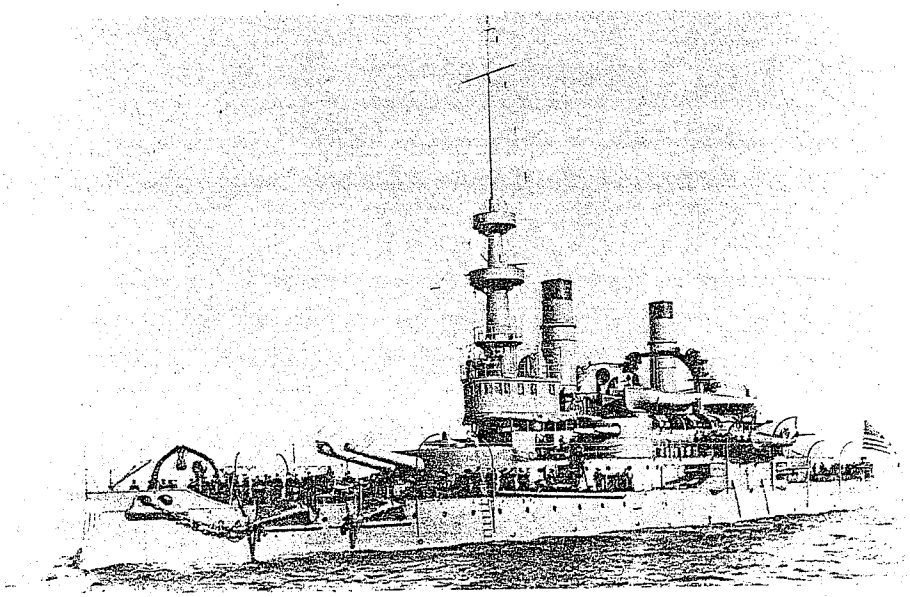


NH68514

USS *Indiana* (BB–1), one of the Navy's first "true" battleships, was designed to carry four 13-inch guns and displace more than 10,000 tons.

USS *Oregon* (BB–3) is shown here en route from the Pacific coast to Cuba. She joined the blockade of Santiago, demonstrating that American seapower was to be built around the battleship, which could successfully undergo an arduous passage and remain in action for long periods of time.

NRL(O)20624



11 new battleships joined the fleet under previous naval acts passed by Congress between 1895 and 1899. They were the backbone of his policy, "Speak softly and carry a big stick"—a truth the United States has often neglected to her sorrow. Also, during his time as President, a series of Congressional acts provided for important build up of the Navy, including 16 additional battleships; over half of these commissioned before the seapower-minded Chief Executive left office. The United States had her battle fleet—and it was needed.

Meanwhile sparked by Commander (later Rear Admiral and the first Aide for Operations) Richard Wainwright and Lt. (later Rear Admiral) William S. Sims, a persistent advocate of scientific gunnery practice, the Navy introduced a new system of gunnery training and new gunsights into the battle fleet. A standard gunnery drill manual soon followed with prizes awarded to ships for outstanding gunnery performance. Between 1903 and 1907 the big guns of the fleet nearly doubled their hits at short range practice.

These same years witnessed rapid evolution of the battleship into an increasingly formidable champion of the seas. The Spanish-American War, followed by the Sino-Japanese and Russo-Japanese Wars dramatically pointed up the importance of the battleship's thick armor and heavy long-range guns. The earlier battleship mounted a few large caliber guns in turrets (in the U.S. Navy four 12- or 13-inch) and a large number of medium and small caliber. *Connecticut* and *Louisiana* for example, laid down in 1903, mounted a main battery of four 12-inch, and an intermediate battery of eight 8-inch and twelve 7-inch, in addition to smaller guns as secondary battery. Then came the British *Dreadnought* in 1906 with her "all-big-gun" battery, ahead of U.S.S. *South Carolina,* then designed but just beginning construction.

5. POWER KEEPS PEACE

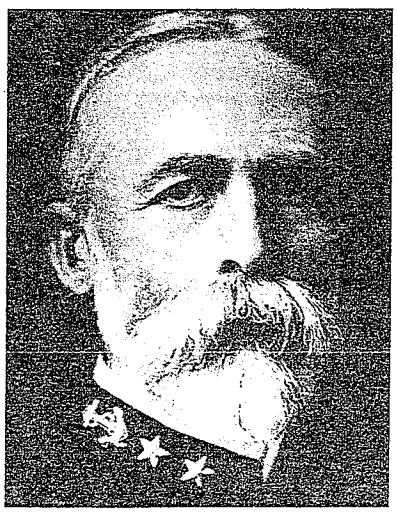
"Peace is a goddess only when she comes in with sword girt on thigh."
—*Theodore Roosevelt.*

The U.S. Fleet serves well in peace as well as in war. Two outstanding examples of its value in the pursuit of peaceful diplomacy took place during Roosevelt's administration, the first in 1902. At that time Venezuela was indebted to several European countries. Germany won British and Italian support and blockaded Venezuelan ports, seizing several of that small country's gunboats. President Roosevelt, holding firm to the spirit of the Monroe Doctrine threatened to send the Atlantic Fleet, under Admiral Dewey to break the blockade. Since most of the fleet was then assembled near Puerto Rico for maneuvers, Roosevelt's warning was no empty gesture. The European warships prudently withdrew and the debt problem was settled by peaceful arbitration. Not a gun was fired, yet, the course of history was altered because the U.S. Navy was potent and ready. "Dewey was," said Roosevelt, "the greatest possible provocative of peace."

The second dramatic peace-keeping role took

Admiral of the Navy, George Dewey
NRL(O)1162

Rear Admiral William T. Sampson
NRL(O)1672



place in the Pacific. The Russo-Japanese War of 1904–05 had convincingly demonstrated Japan's naval power. This dynamic island nation, opened to the world by Commodore Matthew C. Perry only half a century earlier, already gave indications of a national policy to dominate the Far East. This imperiled the "Open Door" policy for China, as well as the Philippines. Tension increased between the two Pacific powers. In a bold move President Roosevelt turned to the Navy as the logical means to remind Far Eastern nations of American interests and aims of freedom for all men. Against strong opposition of many in Congress and the press, the "Great White Fleet" of 16 battleships was ordered to sea on a world cruise.

The fleet, including battleships *Alabama, Connecticut, Georgia, Illinois, Kansas, Kearsarge, Kentucky, Louisiana, Maine, Minnesota, Missouri, New Jersey, Ohio, Rhode Island, Vermont,* and *Virginia,* sailed from Hampton Roads in December 1907. It had the triple mission of easing war tensions in the Far East, of "showing the flag" to strengthen the nation's prestige around the world, and of providing invaluable training for the new battle fleet. After friendly stops in Latin America, it sortied again from San Francisco in the summer of 1908,[8] proceeded to Hawaii, thence to New Zealand and Australia. From there the fleet steamed to Manila and then on to Japan, arriving off Yokohama in October 1908.

Arrival of the American armada in Japanese waters had a profound effect on the Japanese. Hostility changed to friendship; cordiality replaced belligerence. The men of the Great White Fleet were treated with warm enthusiasm wherever they went, from the Emperor down to the average man in the street. Most important, angry talk of war disappeared and armed conflict was averted. The show of American power had contributed to preserving peace in the Far East in a way that diplomacy alone could not have done. The steam-powered, steel-hulled battleship had become a seagoing ambassador in the tradition of her sail rigged forebears.

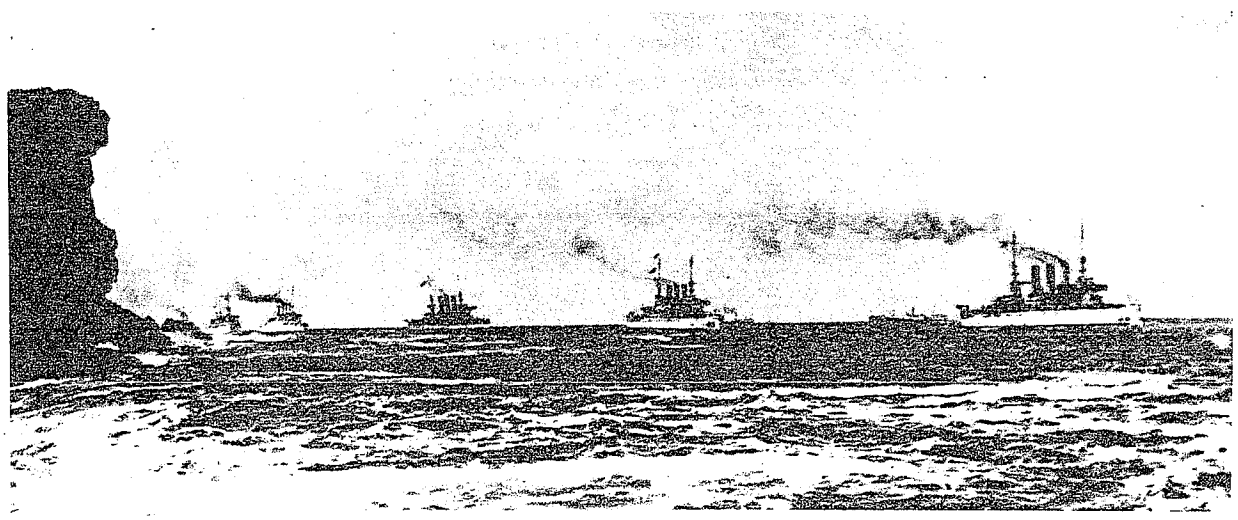
On this same cruise that tested seakeeping and engineering capabilities over vast distances, battleships also carried on the long humanitarian tradition of the U.S. Navy. In December 1908 a violent earthquake devastated Messina, Italy, killing 85 percent of the population. At the time the Great White Fleet was approaching the Suez Canal. Immediately *Connecticut* and *Illinois,* with other ships, loaded with food and medical supplies, sped to Messina to give relief to the survivors of this catastrophe.

> In my own judgment the most important service I rendered to peace was the voyage of the battle fleet around the world.
>
> —*Theodore Roosevelt.*

[8] *Nebraska* and *Wisconsin* had replaced *Alabama* and *Maine* there.

The Great White Fleet enters Sydney Heads, Australia, 20 Aug. 1908, on a world cruise to remind the world of American interests and aims of freedom for all men.

NH67143



6. WORLD WAR I

"Our enemies found ever fresh possibilities of resistance because the sea stood open to them."

—General von Freytag-Loringhoven.

World War I brought war into the air and under the sea as well as on land and sea. Land battles bogged down in trench warfare, while the airplane, a military weapon still in its infancy, was engaged in heroic but indecisive dogfighting. The new weapon of aviation likewise helped attack the new problems of antisubmarine warfare, from under the sea, as well as on it, came the greatest threat to England's survival as a free nation. German submarines slashed deeply into England's merchant shipping, challenging control of the sea and cutting the flow of food and supplies from the rest of the world that Britain's dominant sea power had for so long made possible. Disaster faced the island kingdom—as it would any nation greatly dependent on the sea, like the United States today.

NRL(M)1888

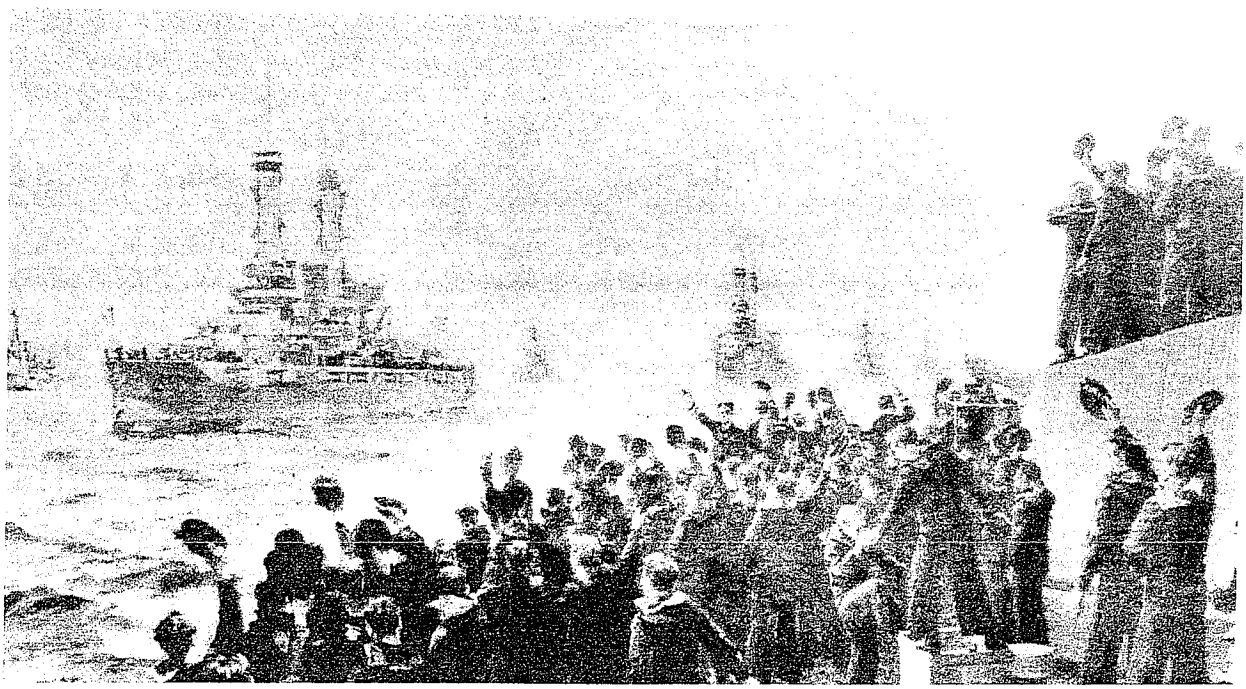
Admiral William S. Sims

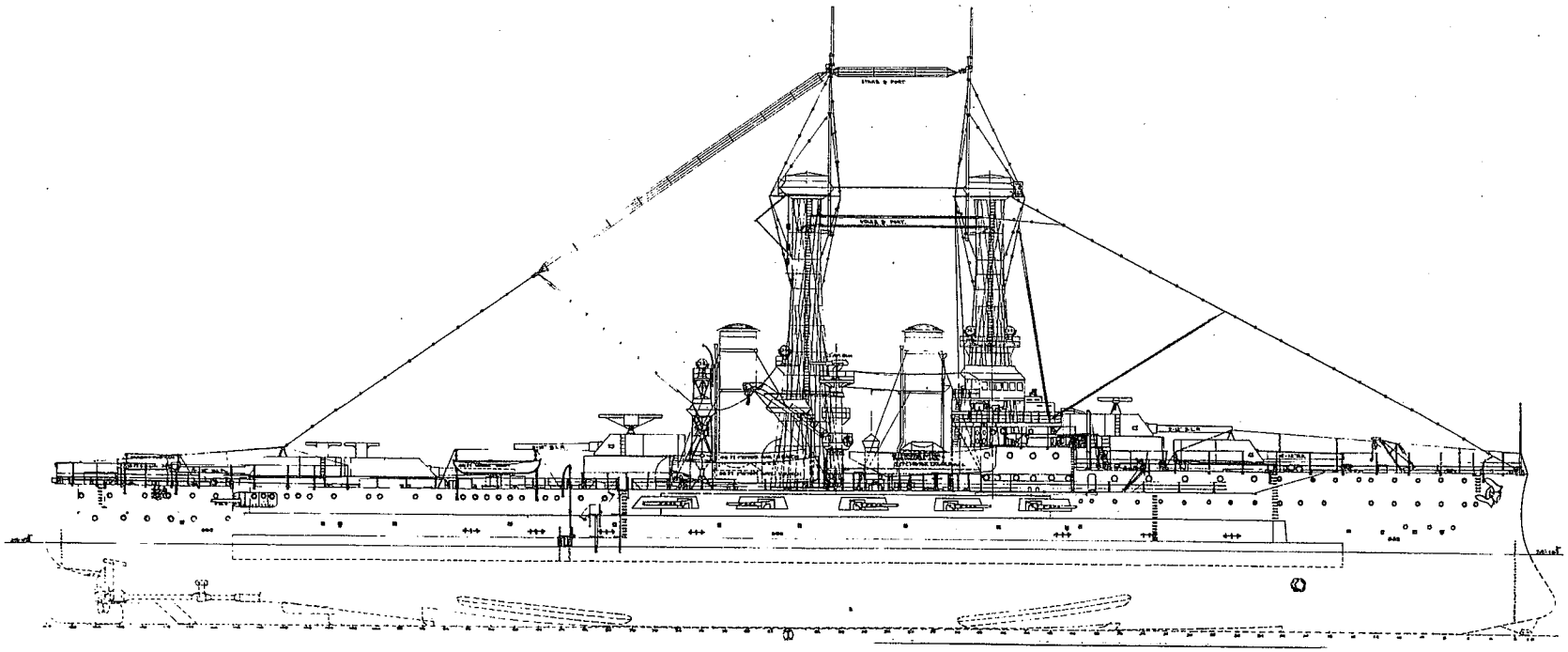
The Royal Navy set up a North Sea blockade to prevent Germany from receiving outside aid. Attempting to break the stranglehold, the German High Seas Fleet, Admiral Scheer, sailed out to attack Admiral Jellicoe's Grand Fleet. On 31 May 1916 the two fleets met off the Danish Coast in the classic Battle of Jutland, some 250 ships taking part. The battle raged all day and into the night when each fleet turned away and the greatest battleship engagement of all time passed into history.

The German High Seas Fleet inflicted heavy damage but also received much and failed to break the blockade. Germany fell back on submarine warfare to reduce sea traffic to the British Isles. Sinking of neutral ships in unrestricted submarine warfare,

The British provide a tumultuous welcome for the arrival of the American Fleet at Scapa Flow, 7 Dec. 1917.

NRL(M)10845





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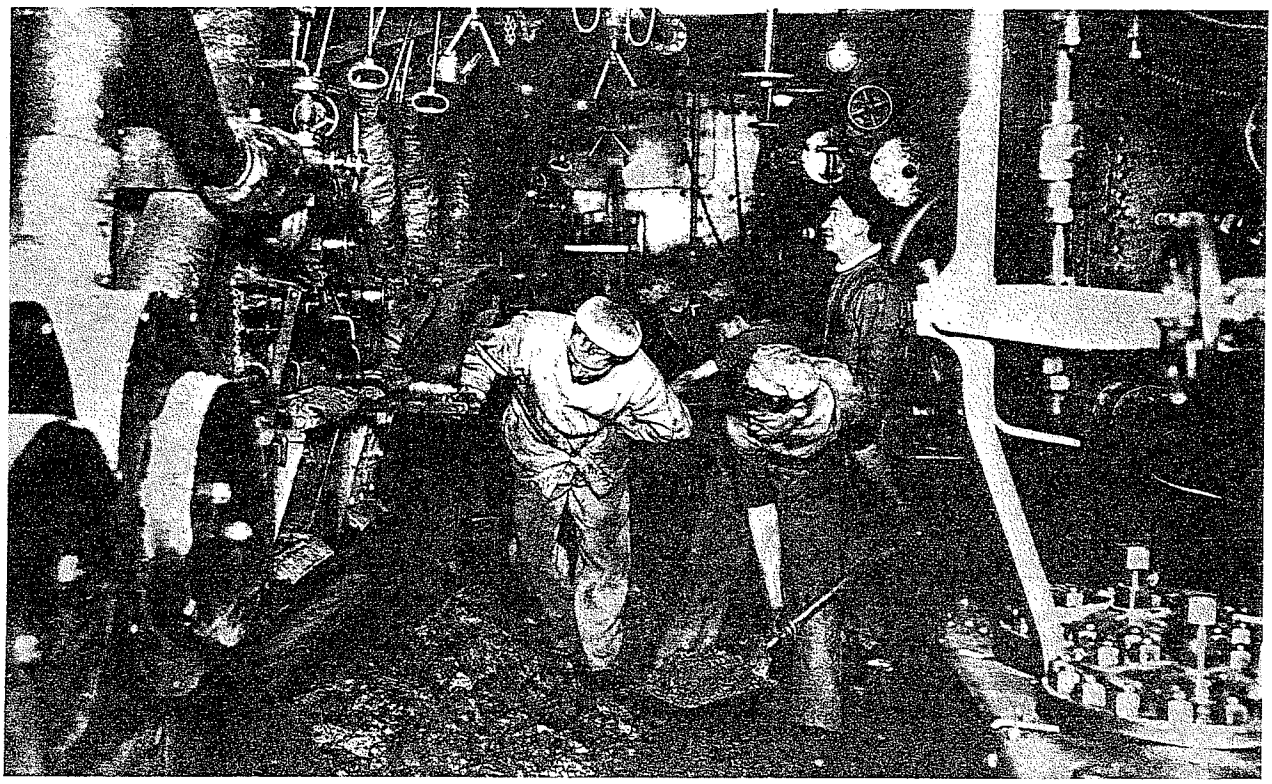
USS *Delaware* (BB–28), an early U.S. dreadnought, was one of sixteen new battleships authorized by Congress during the Presidency of Theodore Roosevelt.



NRL(M)9822

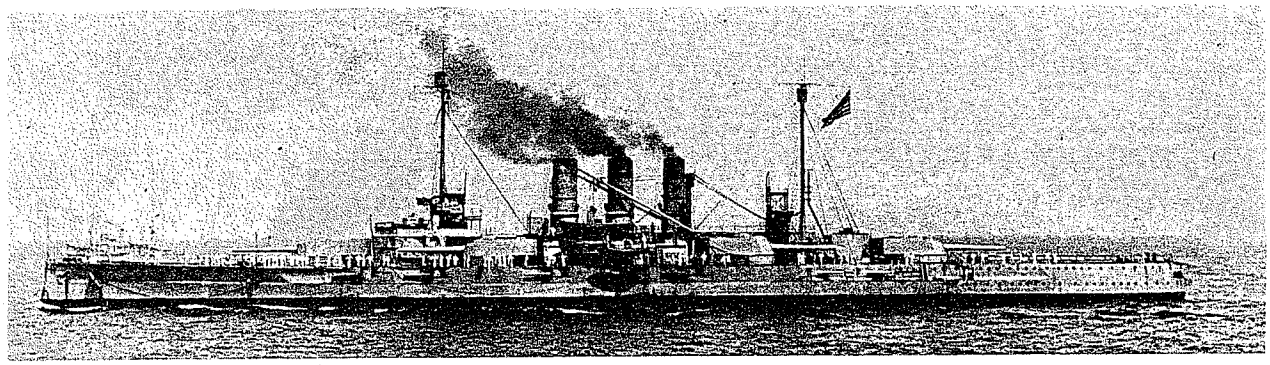
Seamen stoke the fires of a coal burning battleship.

more than anything else swayed the American people from neutrality. In 1917 the United States declared war.

A major role of the U.S. Navy during World War I was to ensure the safe passage of great numbers of troops along with a vast flow of munitions and supplies across the Atlantic. Fast troopships or slower moving convoys escorted by enough destroyers made poor targets for German submarines, but would have been easy game for the German High Seas Fleet, which had not suffered crippling losses during the Battle of Jutland. To meet the possibility that the German Fleet might attempt to break out into the Atlantic, battleships *Delaware, Florida, New York, Texas* and *Wyoming* operated with the British Grand Fleet in the North Sea. Later, *Arkansas* relieved *Delaware*. Three others, *Nevada, Oklahoma,* and *Utah,* steamed to Bantry Bay, Ireland, to protect troop convoys. The older predreadnought battleships escorted transatlantic convoys and served as gunnery training ships.

The large fleet engagements of World War I took place before the United States entered the war, but the U.S. Navy played a major part in transporting troops, protecting convoys, clearing the seas of the submarine menace and ensuring that men, munitions, food, supplies, and materials got through to the beleaguered Allies. Likewise, sailors manned battleship-guns mounted on railway cars in France to pound the enemy with devastating accuracy at long range. Expressing his understanding of the Navy's role in World War I, General John J. Pershing said, "* * * had it not been for the Navy, who kept watch and guard night and day over our transport fleet, the American effort in France would never have been successful. The Navy's assistance was wholehearted and arduous, and always given in a most generous spirit of cooperation."

In the history of war, every important development of offensive or defensive strength soon or late has its counter. This was true of the submarine in World War I. Long before the end of the war defensive measures had ended its threat to England's survival. But had the allied battleships not held the sea, the German battle fleet would have cut all overseas aid to England and France, insuring German victory. Thus the battleships remained the mainstay and measure of naval power and of national survival in World War I.



NRL(M)18005

Ostfriesland, German BB was sunk in a misleading attempt to prove that air power had made naval force useless.

7. BETWEEN THE WARS—A NEW CHAMPION DEVELOPS

"It follows then as certain as night succeeds day that without a decisive naval force we can do nothing definitive and with it everything honorable and glorious." —*George Washington.*

During and for a few years after World War I, the United States laid down the keels of many more battleships. The largest completed, *Colorado, Maryland,* and *West Virginia,* mounted 16-inch guns, the first in the turrets of an American battleship. They were 624 feet long, displaced 32,600 tons, could cruise at 21 knots and wore an 18-inch armor belt. At high speed on variable courses, they could fire an accurate broadside of over 8 tons more than 20-land miles.

Amidst wishful thinking, especially in the United States, international agreements limited naval forces of the major naval powers. Isolationists and pacifists, joined by cost-conscious Congressmen, winced at the price the country had to pay for a balanced Navy including carrriers and battleships. (Also, airpower zealots claimed that not only battleships but navies were obsolete.) It took World War II to prove how wrong they were. How fortunate for the world that the U.S. Navy managed to continue with at least a nucleus of needed types—including battleships, and the aircraft carriers that took over the leading role in navies in World War II.

On 12 November 1921, delegates from the United States, Great Britain, Japan, France, and Italy assembled for the Washington conference on naval limitations. Months of discussion brought agreement that future capital ship ratios should be: United States 5, Great Britain 5, Japan 3, France and Italy 1.75 each. This meant that the United States, coming out of the recent war developing the strongest fleet in the world, would scrap real and building battleships while others would scrap mostly paper plans. Construction was cancelled on seven great battleships laid down between 1919 and 1921. Since even this enormous sacrifice did not meet the prescribed ratios, the United States further agreed to dispose of four older battleships already in commission, as well as all her remaining predreadnaughts. During the years to follow, Japan was the only member of the Washington conference to maintain its naval forces at the maximum allowed limits prescribed at the conference.

Understanding of the United States' need for adequate strength afloat suffered solely during the two decades between world wars from men of clouded vision claiming that the airplane had replaced navies including aircraft carriers. Part of their success in deluding citizens came from the misrepresentations of General Billy Mitchell and others over the sinking during gunfire and bombing experiments on various stationary ships including the German battleship *Ostfriesland.*

Violating agreed-upon Army-Navy rules, set up to allow study of shell and bomb effects between attacks, General Mitchell's planes did sink anchored *Ostfriesland.* He then spread extreme claims as to the vulnerability of navies, but failed to point out important facts:

First—Being at anchor, the ships could not maneuver at high speed to avoid hits—as ships of all types did effectively in World War II.

Second—There were no carrier fighter planes to shoot down some or most of the bombers before they could reach the target—as often demonstrated in World War II.

Third—The ship was not firing at the attackers. The massed concentration of antiaircraft

guns from 5 inch to 20 millimeter, especially in battleships by 1944, backing up outstanding fighter plane defense, made U.S. Task Forces so safe in normal air attack that the Japanese undertook the desperate kamikaze campaign that got more hits but ended in 100 percent loss of planes.

Fourth—Ostfriesland lacked the watertight integrity that would have prevailed had her crew been on board with the damage-control parties that in World War II saved many damaged ships to fight again.

Fortunately, for the United States' existence, extremist views did not prevail. The Navy remained and steadily integrated aviation into the fleet. However, in the depression years cuts in the budget further limited support for ship construction. Even Japan's aggressive invasion of Manchuria in 1931, the rise of Hitler 2 years later and the gradual resurgence of German military and naval power did not awaken the American people nor spur Congress to sufficient action. (Will the same complacency develop after Vietnam?) In these critical years before World War II appropriations for the Navy sank under $300 million in 1934 and did not exceed $600 million for all purposes, including construction, until fateful 1939 when World War II erupted. This put a severe strain on American naval strategists, who now had to consider the possibility of a two-ocean war without enough Navy to go around.

Fortunately, taking office in 1933 Franklin D. Roosevelt, an astute naval enthusiast and one-time

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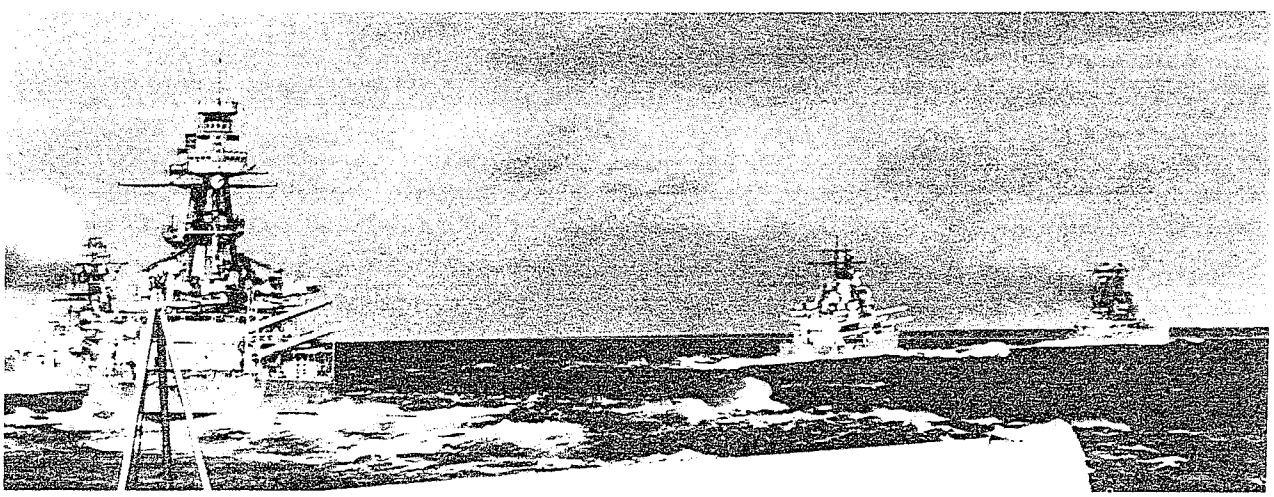
President Franklin D. Roosevelt

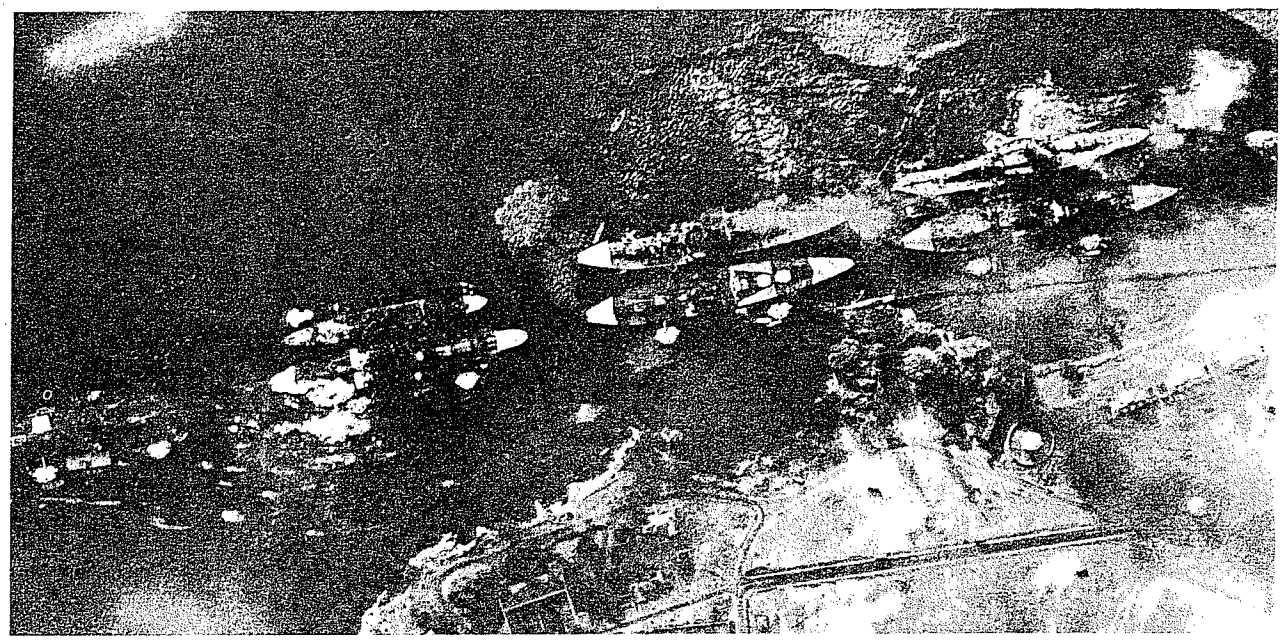
Assistant Secretary of the Navy, knew well the dominant role seapower must play in America's destiny. He managed to provide for some ship construction outside the naval budget. Yet isolationist sentiment so prevailed that he had to proceed slowly in building up the Navy.

Four aircraft carriers and a number of cruisers, destroyers and submarines were added to the fleet from 1933 to 1940. But it was not until 1940 that two battleships launched. *North Carolina,* hard hitting namesake of Commodore Rodgers' celebrated ship-of-the-line, commissioned in April 1941, followed in May by her fine sister ship *Washington.* Radar fire control made it possible for their giant 16-inch guns to hit even high speed targets 20 miles away with phenomenal accuracy.

The mighty dreadnoughts were the guarantors of peace during the 1920's and 1930's. They are shown in formation with turrets trained during a practice maneuver.

NRL(M)30416





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Although the Japanese inflicted heavy damage on battleship row, Pearl Harbor, 7 December, they could not sink a single American battleship during the remainder of the war. Powerful and fast new BB's protected fast carrier task forces against surface and aircraft attack, while the older BB's engaged in shore bombardment and guarded convoys.

8. WORLD WAR II—A NEW CHAMPION JOINS THE BATTLESHIPS

"Make every minute count. We have no time to lose."

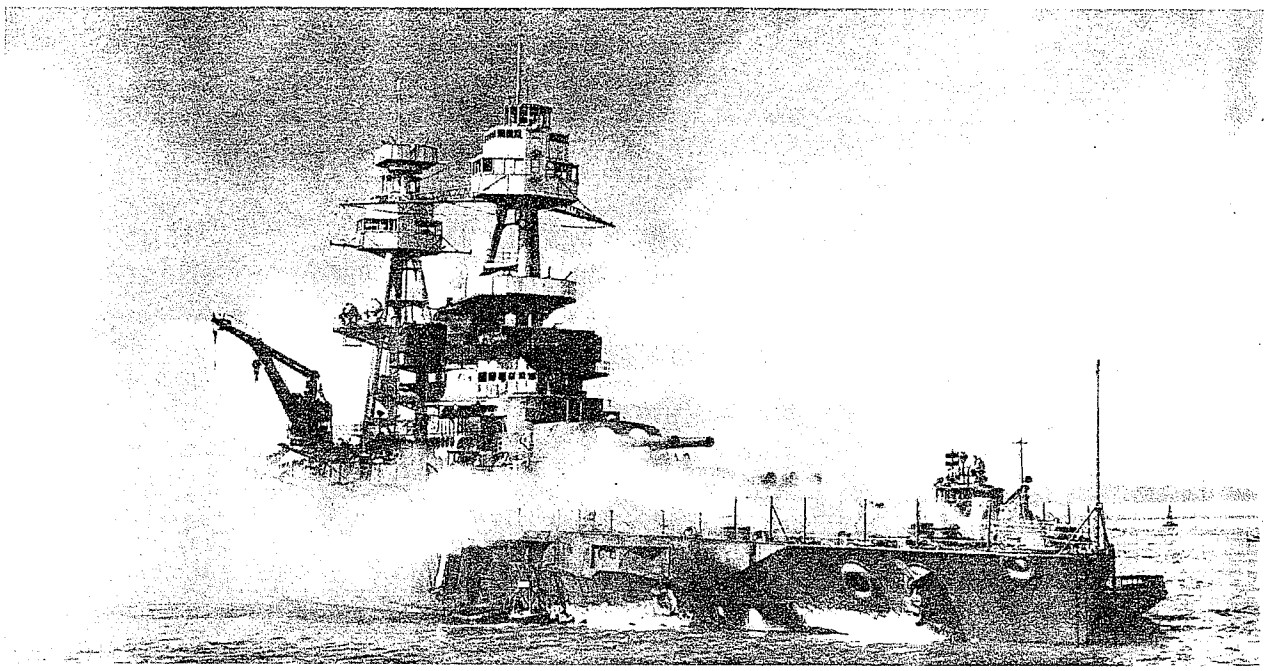
—*Fleet Adm. Ernest J. King.*

Peace that had lasted only 21 years for Europe now ended for the United States—disarmament had merely made it easier for the aggressor. On 7 December 1941 the Japanese struck Pearl Harbor. Through divine providence, no aircraft carriers were in port. They would be desperately needed in the battles ahead to provide the very long-range punch the plane had brought navies—indeed they would avenge Pearl Harbor in the incredible victory at Midway only 6 months later.

The Japanese declared war by attacking "Battleship Row" on a peacetime Sunday morning. Hit before they could man their guns, unable to maneuver, and without battle-ready watertight closures, the battleships were naturally easy victims. Of the eight dreadnoughts present *Arizona* blew up and sank, *Oklahoma* capsized, *West Virginia* and *California* sank. *Nevada* was beached. *Maryland* and *Tennessee,* moored inboard of other battleships, got off with light to moderate bomb damage; along with drydocked *Pennsylvania,* hit by one bomb, they soon proceeded to the West Coast for repairs.

With the exception of *Arizona* and *Oklahoma* the damaged battleships, repaired, modernized, and stronger than ever, performed yeomen service in the drive across the Pacific. *Nevada* also served in the Atlantic. Her big guns more than repaid the total cost of reconstruction, and of operation for a generation in brilliant fire support of troops in the invasion of Normandy and Southern France. Her gunfire was an important reason for the signal from the Normandy beaches, "Thank God for the United States Navy!"

Aircraft, torpedo boats, missile, or gun ships can readily sink a defenseless ship; or in overwhelming numbers they can sink any ship. U.S. Navy carrier pilots well demonstrated this late in World War II by overpowering giant battleships *Musashi* and *Yamato.* Yet given anything like equal odds the battleship could survive almost any attack. After the Pearl Harbor sneak "sitting duck" attack, no American battleship was sunk though these heavy, fast, and deadly floating fortresses sailed constantly in harm's way—the new ones with the fast carrier strik-



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USS *Nevada* (BB–36) burns after Japanese aerial attack at Pearl Harbor, but the indefatigable battleship was able to beach herself, and after repairs returned to duty in the Pacific and later at Normandy.

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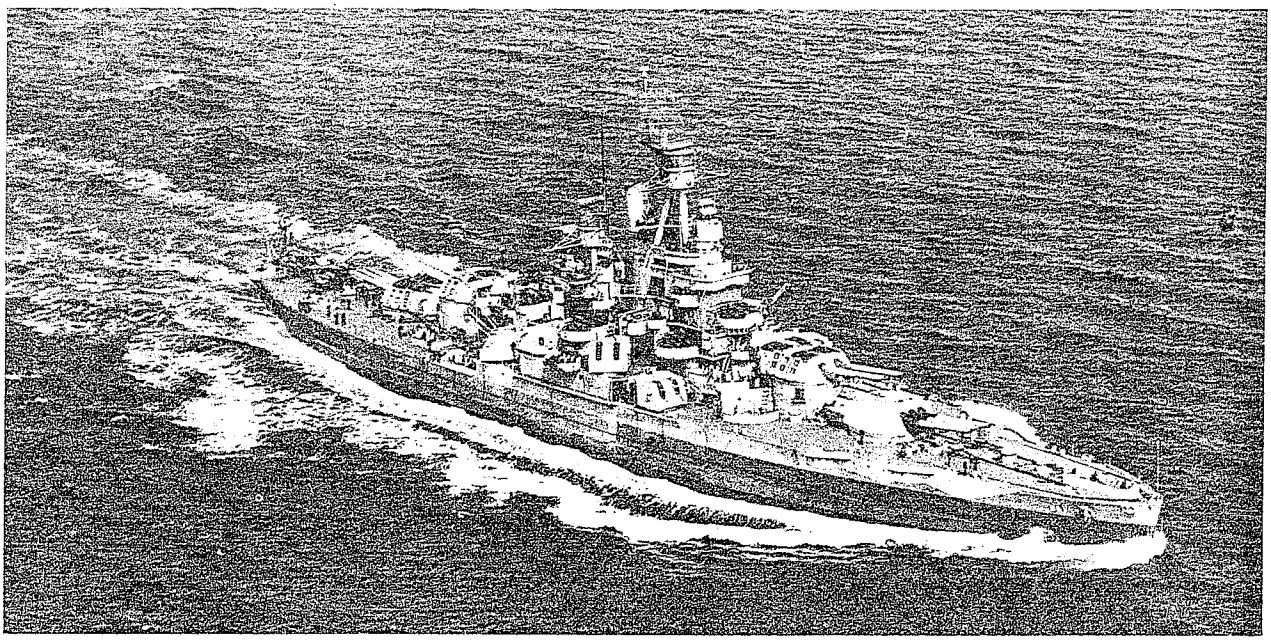

USN701548
Fleet Admiral Chester W. Nimitz

ing forces, the old ones in the resistless amphibious operations across the Pacific and into North Africa and Europe. Indeed on the battleships' powerful antiaircraft batteries, as well as their heavy long-range guns, depended much of the success of most campaigns in each theatre.

Pearl Harbor was an awful climax to mounting darkness. The year it ended had brought Hitler's greatest land conquests. It had also marked a crescendo in his U-boat campaign. Hence 1942 opened with grim prospects from the Atlantic to the Pacific. Yet darkness fades before courage and faith—and tireless effort. Faced with the gravest challenge of their history Americans responded magnificently and none more so than her fighting sailors.

Midway and Guadalcanal

"Posterity you will never know how much it cost the present generation to preserve your Freedom! I hope you will make good use of it."

—John Adams.

While the old battleships repaired and new ones completed, Admiral Nimitz's outnumbered fleet stopped the enemy in May 1942 in the Coral Sea. On 4–6 June the handful of carriers, with accompanying cruisers and destroyers, brilliantly handled by Adms. Frank Jack Fletcher and Raymond A. Spruance won the decisive battle of Midway that changed the whole course of the war. In this crucial victory, planes from *Enterprise, Yorktown,* and *Hornet* sent four Japanese flattops and one cruiser to the bottom at the cost of *Yorktown* and destroyer *Hammann*. The Japanese, reeling back on their heels from irreplacable pilot and carrier losses, abandoned the invasion, retired westward, and never again

The mighty USS *North Carolina* (BB–55), first battleship to be commissioned (April, 1941) since 1923, displaced 35,000 tons and carried nine 16-inch guns.

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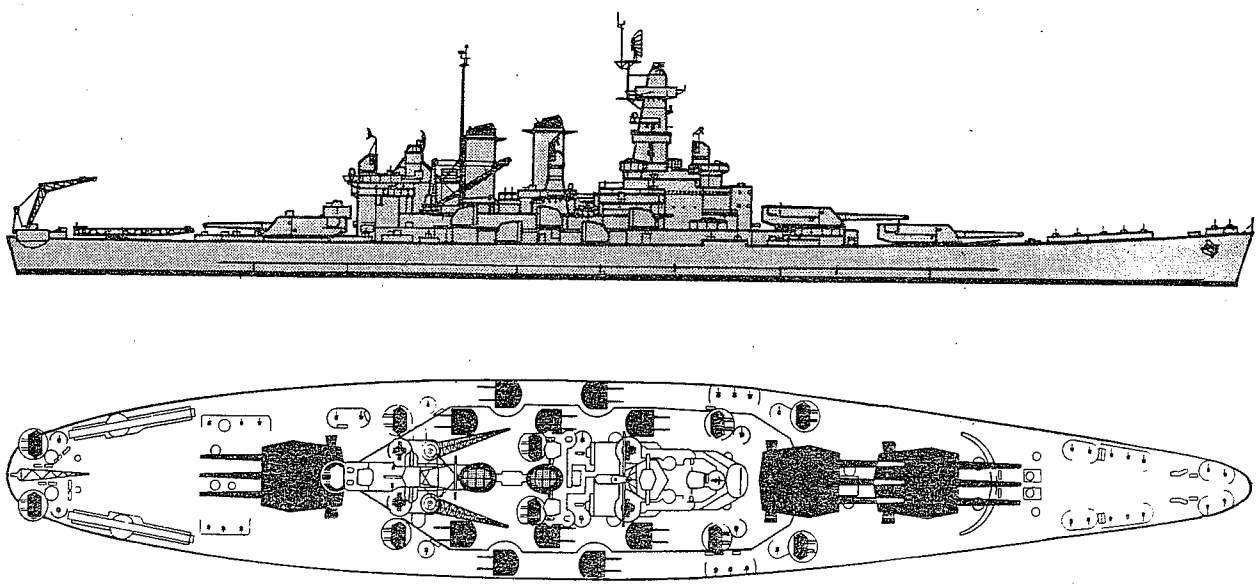

could have real hope of winning the war. These historic battles not only changed the course of the Pacific war but also influenced naval tactics. The aircraft carrier, with her far-reaching dive bombers, became the unquestioned spearhead of the Navy. New and vitally different demands fell on the battleship. The old ones, occasionally joined by the new, would provide the heavy punch in amphibious assault; the new ones would serve superbly as consorts and protectors of the fast carriers.

Fortunately they were beginning to become available as war engulfed the United States. In the wake of *North Carolina* and *Washington,* between March and August 1942, *South Dakota, Indiana, Massachusetts,* and *Alabama* joined the fleet. During 1943 and 1944 *Iowa, New Jersey, Missouri,* and *Wisconsin* would follow—a new breed, with designed speed of 33 knots, they bristled with antiaircraft batteries; and their 16-inch guns could fire with remarkable accuracy at a high-speed target far over the horizon.

Two months after Midway the U.S. Navy, in its first amphibious assault of the war against a hostile shore, struck at Guadalcanal in the Solomons to begin the amphibious drive that would surge across the Pacific. In this series of epic battles the aircraft carrier and battleship each contributed unique advantages to the fleet that fought gallantly in the spirit of Admiral Nimitz' words: "As you meet the Jap along the vast battle lines from the Aleutians to the Solomons, remember liberty is in every blow you strike."

Guadalcanal had been seized by the Japanese to dominate Australian sealanes. The invasion force

208PU116M1
Vice Admiral Willis A. Lee, Jr.

under Rear Adm. Richmond Kelly Turner swept into what came to be known as "Iron Bottom Sound" and landed the Marines 7 August 1942. A rugged campaign, it continued until February 1943, in bitter jungle battles ashore and a series of fierce naval engagements.

Among the sea fights were Savo Island, Eastern Solomons, Cape Esperance, Santa Cruz, Guadalcanal, Tassafaronga, and Rennell Island.

The Battle of Savo Island, 9 August 1942, fought just north of Guadalcanal, ended in near disaster, when the Japanese in a surprise night attack sank 4 cruisers and damaged another. With control of the seas often in doubt, Admiral Nimitz sent in all ships available. *Saratoga* joined *Enterprise, Wasp,* and

Admiral Chester W. Nimitz sent in the only fast battleships available, *Washington* (BB–56) and *South Dakota* (BB–57), for the fierce night action off Savo, 14 November 1942.

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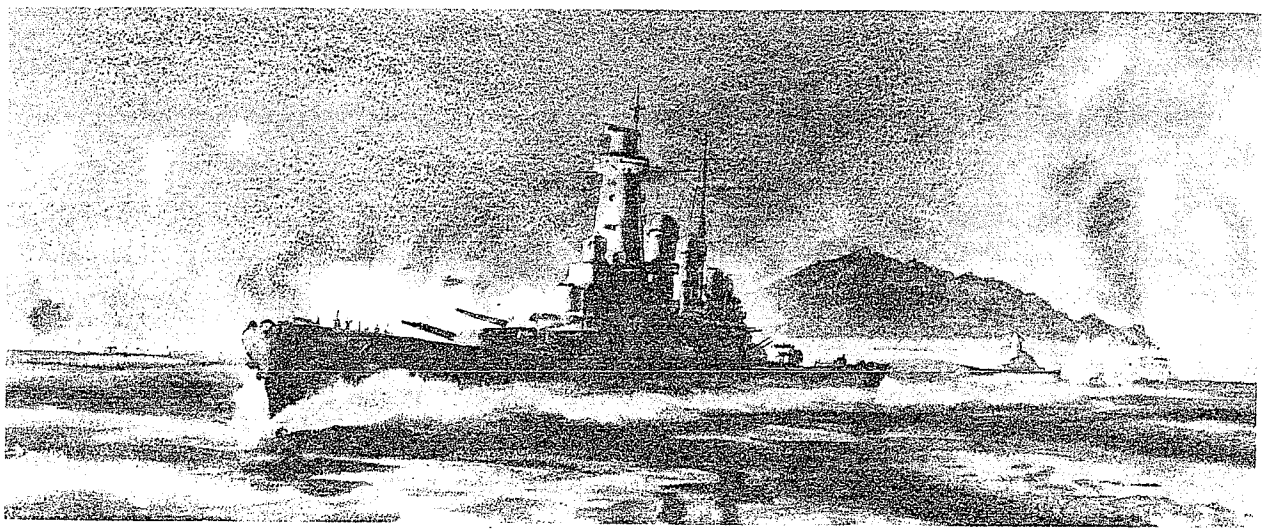

Hornet that had supported the initial landing. To give dual big gun and antiaircraft protection to the flattops, the new battleship *North Carolina* shifted from the Atlantic. In the Battle of the Eastern Solomons, 24–25 August 1942, *North Carolina* paid for herself several times over when her intense antiaircraft fire shot down a formation of enemy bombers that had broken through the Navy's Combat Air Patrol and might have mortally damaged the priceless carrier *Enterprise*.

In mid-October, at the Battle of Cape Esperance, not only did *North Carolina*'s guns again chalk up a heavy toll of the enemy but she proved her ability to take as well as to give. At the peak of the battle a torpedo meant for *Hornet* tore a 32-foot hole in this rugged battleship. The damage control party promptly sealed off the area and she continued blazing away accurately at the enemy planes as if nothing had happened. The modern battleship teamed with the aircraft carrier made an almost invulnerable combination. The carrier's fighter planes shot down many of the attacking aircraft. The battleship not only defended against surface attack but with her numerous and highly effective antiaircraft guns saved the carrier from enemy planes that broke through the fighters.

North Carolina later steamed back to Pearl Harbor for repairs. The battle ended with serious loss, however, as carrier *Wasp,* with only one destroyer protecting was torpedoed and sunk. Shortage of ships for all the pressing tasks in the Pacific hurt desperately in the first years of the war. The limitation of the Navy in the 1930's paid off in bitter coin of loss of lives and ships.

Late in October 1942, while the land battle raged for Henderson Field, Guadalcanal's prized airstrip, the naval engagement of Santa Cruz was fought. While *North Carolina* repaired, the new battleship *South Dakota* took her place on the front line to defend *Enterprise*. When the flattop came under attack, *South Dakota*'s heavy antiaircraft fire saved *Enterprise* from Japanese dive bombers. Not so with *Hornet,* lacking the massed antiaircraft protection a battleship provides. Pounded by dive bombers, she was finally abandoned and later sunk by Japanese gunfire.

Loss of *Hornet* left the U.S. Pacific Fleet with only two attack carriers, *Enterprise* and *Saratoga*. Had more battleships been available to protect the few carriers at Cape Esperance and Santa Cruz, a dif-

During the Battle of Santa Cruz, 26 October 1942, air defenses of USS *South Dakota* (BB–57) protect USS *Enterprise,* demonstrating the defenses of our modern battleships against air attack.

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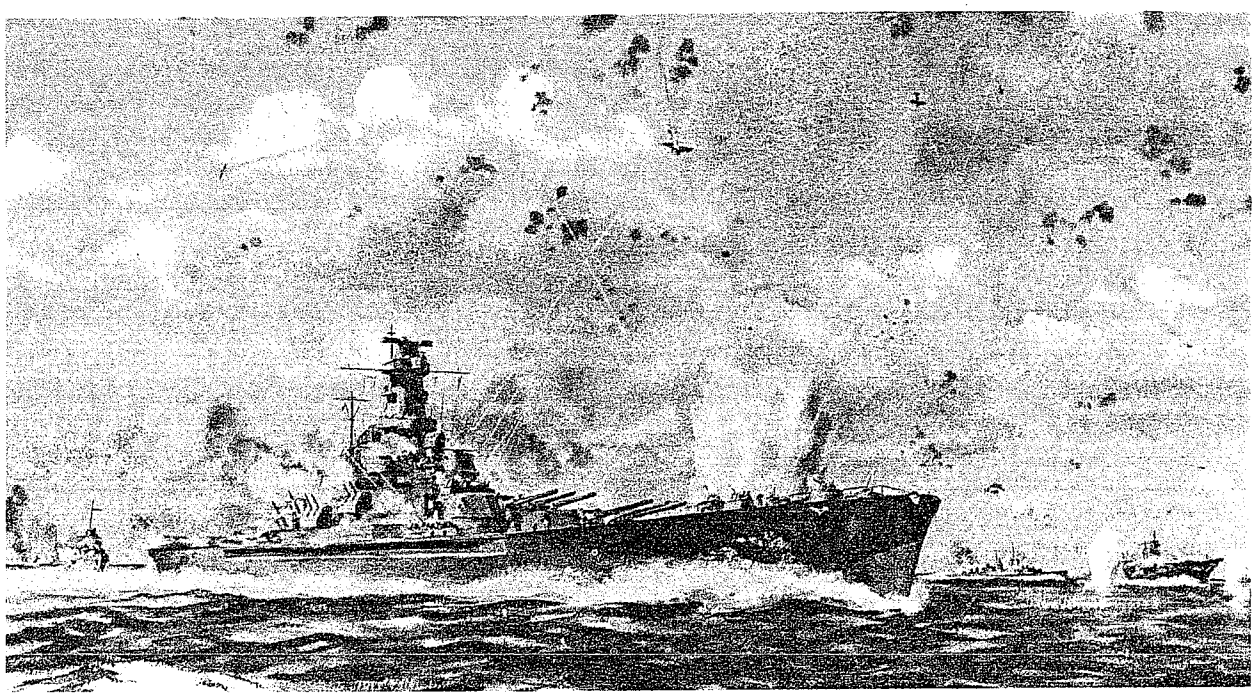

ferent story might have been told.

The Japanese now made a supreme effort to recover Guadalcanal, sending in battleships as well as other surface, air, and land forces. For weeks fierce fighting continued on land, in the air and on the sea as the Americans grimly held on in the Battle of Guadalcanal. By 12 November, American naval reinforcements arrived, including battleship *Washington,* to operate with *South Dakota.* Now the United States could match Japan's big guns.

The fleets met the evening of 12–13 November, the battle raging until dawn. Japanese battleship *Hiei,* badly damaged during the night, was finished off by Navy and Marine bombers the next day. Guadalcanal, meanwhile, had been bombarded by heavy cruisers, but the Marines, in spite of the barrage, held Henderson Field. The following day each side prepared for renewed action. At the height of the engagement *South Dakota* and *Washington* and escorting destroyers chased the second Japanese battleship, *Kirishima* with accompanying cruisers and destroyers. Battle damage and a temporary power failure forced *South Dakota* out of line, but *Washington*'s 16-inch guns pounded *Kirishima,* until battered beyond hope, she was scuttled. Long after midnight Admiral Lee in *Washington* boldly chased the remaining Japanese ships north, disrupting a major reinforcement landing.

Both sides lost a number of ships during the 3-day battle, but with *Hiei* and *Kirishima* both sunk, the Japanese counter-attack lost its punch. The United States had won a crucial sea victory in a long series of Thermopylaes resolutely fought by the Navy and Marines on, under, and above the sea and in the steaming jungles of Guadalcanal. The enemy fought two more naval battles, one off Tassafaronga at the end of November, and the other off Rennell Island at the end of January 1943. Then they secretly evacuated surviving troops from Guadalcanal. United States seapower, built around the far-ranging aircraft carrier and the powerful new battleship, had forged enduring links in the chain leading to defeat of Japan.

Invasion of the North Africa

"The severed life line of the Empire was spliced."
—*Rear Adm. H. K. Hewitt.*

Though fighting desperately on a shoestring in the Pacific, the U.S. Navy had to keep its strength divided in a two-ocean war. How much the nation needed the ships the disarmament and economic experts had saved from being built. How much greater now the cost in blood and sorrow as well as dollars. The full U.S. Navy was needed in the Pacific but Hitler had to be stopped in Europe and Africa. Even as the Navy and Marines struggled to survive in the Solomons, strategy called for a multi-pronged invasion of North Africa. This was the first step in cracking Hitler's Fortress Europe and preventing German capture of French naval forces and bases in West Africa. On 8 November 1942, invasion assaults swept into Algeria at Oran and Algiers, and into Morocco in three landings north and south of Casablanca. The Mediterranean invasions, with British naval support, sortied from England. The Western Task Force for the Morocco landings sailed from the United States. To support the invasion force, besides cruisers, destroyers, and amphibious types, the Navy selected World War I veteran battleships *Texas* and *New York,* along with *Massachusetts,* commissioned only 6 months earlier.

As the Navy returned to the shores of North Africa where in its infancy it had forged some of its noblest traditions, the two veteran battlewagons covered the forward flanks of the invasion force of over 100 ships under Rear Adm. H. Kent Hewitt. *Texas* supported the Northern invasion thrust near Port Lyautey; *New York* some 200 miles to the south at Safi insured the success of that landing.

In the center *Massachusetts,* of Rear Adm. Robert C. Giffen's Covering Group, protected the landings at Fedhala by bombarding the French coastal artil-

Vice Admiral Henry Kent Hewitt
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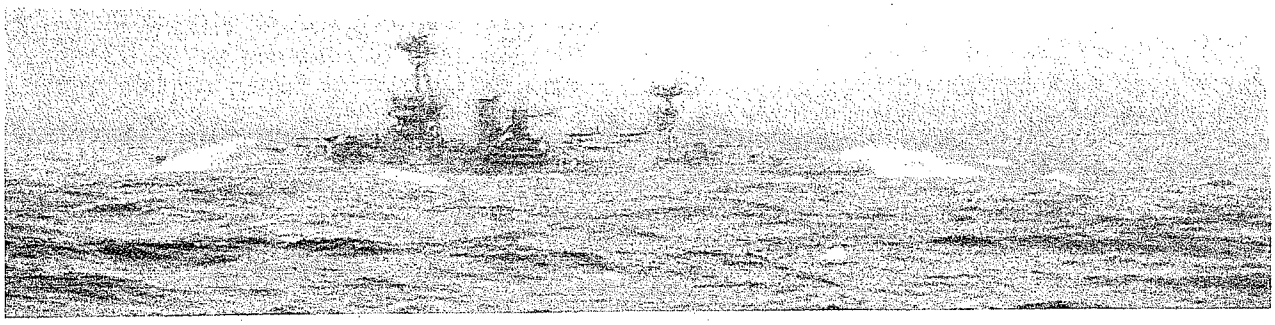

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A North Atlantic convoy is escorted by *New York* (BB–34) February, 1942. In addition to fire support for troops, the older battleships performed valuable escort duty throughout the war.

lery at Casablanca a few miles to the southwest. The shore batteries were buttressed by the 15-inch guns of the unfinished French battleship *Jean Bart*. Had they not been silenced they could have torn the invasion force to pieces. *Massachusetts,* with heavy cruiser *Tuscaloosa* ranged in on *Jean Bart* at 12 to 15 miles distance. *Massachusetts'* 16-inch guns found the mark, causing the main battery of the French battleship to jam, silencing the ship's big guns.

Victory in North Africa did not end the call for battleships in the Atlantic-Mediterranean theatre. The new battleships guarded the critical shipping lanes to England and Russia—providing the big gun, armored ship protection against German surface ship attack on the convoys, the lifeline and very means of existence of all overseas operations. The few old battleships not in the Pacific likewise convoyed and trained the rising tide of new men needed. Then at Normandy in June 1944, and in the invasion of Southern France that autumn, their guns again came into demand to smash shore defenses as part of the resistless onslaught from the sea. *Texas* would serve well again. *Arkansas,* so old that many thought her useless, and *Nevada,* transferred temporarily from the Pacific, would deliver mighty blows. Reaching far inland with their big guns they would confound the enemy with their accuracy and effect.

The Amphibious Typhoon

"The greatest single factor in the American success is naval gunfire."

—*Col. Y. Saito,* IJA.

Meanwhile, demands differed in the Pacific. The new battleships were stalwarts in the fast carrier task forces. Mounting over 100 barrels of medium and small caliber antiaircraft guns, with accurate fire control, they were overwhelmingly effective in air battle. As the war progressed westward opportunity increased to fire the big guns in shore bombardment. Always they were a great comfort and ever sought after to protect the carriers.

The old battleships had a different mission. Initially they served as a distant covering force at the battle of Midway. Lacking speed they could not operate in the fast carrier task forces. Later they steamed to the South Pacific for backup support in the closing stages of the Guadalcanal campaign and in the drive up the Solomons. Then, starting at Attu in May 1943, they came into their own again as the juggernaut gathered force to hit with resistless impact time and again in the offensive across the Pacific. After Makin and Tarawa the old battleships had little time to cool their gun barrels as they trained for and struck in repeated amphibious assaults.

The 5th Fleet, organized early in 1943, soon became a formidable armada under the command of Vice Adm. Raymond A. Spruance, hero of Midway. His first huge task was sweeping the Gilbert-Marshall chain free of Japanese forces. The versatile battleship, having proved her worth as a command ship, antiaircraft station, and gun platform for shore bombardment, became a principal part of the 5th Fleet. With enormous firepower, higher speed and battle ruggedness, the new battleships of the *North Carolina, South Dakota* and later *Iowa* classes were perfect consorts for the aircraft carriers. The older battleships likewise went to the forefront in the role of "fire support powerhouses" in amphibious operations. Before a landing their deliberate fire knocked out a large part of the enemy's shore defenses. Afterwards they well supported the troops with precise call fire.

While the carriers guarded by fast battleships ranged to the west devastating enemy airfields and defending against surface and air attacks, the assault elements of the 5th Fleet converged on Makin and Tarawa. On 20 November 1943, a powerful bombardment from the 14-inch guns of battleships *Pennsylvania, Idaho, New Mexico,* and *Mississippi* joined with airpower to shatter the Japanese defenses at Makin, and Rear Adm. Richmond Kelly Turner directed the island's capture from his flagship, *Pennsylvania.* Tarawa was a harder nut to crack. Rear Adm. Harry Hill in battleship *Maryland* led the assault force. The naval bombardment by *Maryland, Tennessee* and other ships blanketed the island, cut communications and silenced most of the enemy's heavy guns. However, concealed defenses including heavy blockhouses that might have been knocked out in a longer bombardment, and a dodging tide that caused the assault craft to ground well offshore, set up major obstacles for the gallant Marines. Nevertheless they fought on, ably supported by Navy guns and planes. On 23 November, after several days of savage fighting, Tarawa fell into American hands.

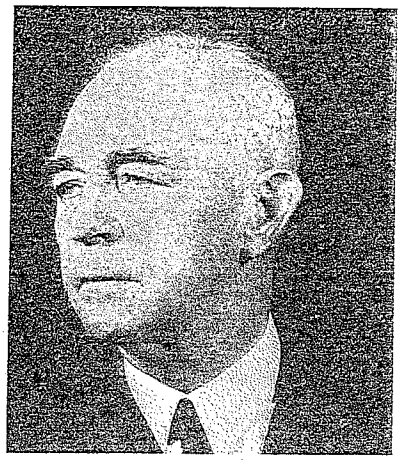
Speed of Attack Pays Off

"Time is everything; 5 minutes may make the difference between victory and defeat."

—*Adm. Lord Nelson.*

The amphibious drive gathered momentum. Leaving the enemy no time to build up, late in January 1944, the 5th Fleet struck Kwajalein. Conditions allowed more time for preliminary bombardment of the defenses. Fast battleships *Massachusetts, Indiana,* and *Washington* bombarded the atoll for a day with over 700 rounds of 16-inch. Then *Pennsylvania, Mississippi, New Mexico,* and *Idaho,* along with cruisers, took over the bombardment with slow deliberate fire that smashed the island's defenses in detail. The assault troops surged ashore on 1 February and by the 5th the atoll was secure. As in other amphibious assaults, the awesome preparatory fire of the battleships and their sustained support of the fighting man after landing speeded victory.

Because of the swift success at Kwajalein the decision was made to move on northwest at once while the enemy was off balance. Without delay the assault force formed and sped to Eniwetok. Behind the smashing blows of *Pennsylvania, Colorado, Tennessee* and other ships and carrier aircraft, the invasion forces plunged ashore and by 22 February the American flag flew over Eniwetok Atoll. The rapidity with which warships can shift objective and speed to it with concentrated power paid off handsomely.



38MCN537–1
Vice Admiral Richmond K. Turner

This swift and relentless movement kept the Japanese off balance. From the beginning in August 1942, this was so, even though in the ensuing bitter fighting it often appeared otherwise.

At Guadalcanal the Japanese had just started developing defenses and their airfield was not complete when Admiral Turner's amphibious force struck on 7 August 1942. Even another few weeks might have made the initial assaults and subsequent operations far more costly—perhaps to the point of not succeeding. Adm. E. J. King's pressing urge to "Do the best you can with what you have," and as soon as you can, derives from an elementary fact of life. Events don't wait. A man must act when it is time to act. He must prepare as best he can but not expect perfection or to have all the means wanted or needed. The opponent also has problems and the sooner one can strike the more difficult for him. Of great importance, he must accept the defensive, always weaker, since the defense must adjust to the attacker's move. The one on the offense can concentrate, whereas the defender has the impossible task of trying to be strong everywhere. Once he gets off balance he may never recover. "There *is* a tide in the affairs of men * * *."

The tough island of Tarawa would have been much tougher a few weeks later. Among defenses

NRL(M)36662–A
Admiral Raymond A. Spruance

USN701920
Fleet Admiral William F. Halsey

on hand but not ready for use, for example, were many antiboat mines.

In the Marshalls the Japanese were frantically building up defenses when the 5th Amphibious Force struck Kwajalein only 2 months after the Gilberts. Having to spread resources throughout the Pacific, the Japanese had naturally given less attention to the islands to the westward like Eniwetok.

At Saipan much artillery was on hand but not in place when the on-driving Navy caught the Japanese before they were ready.

While Admiral Spruance was pushing through the Marshalls on the near route to Japan the 7th Fleet spearheaded General MacArthur's advance along New Guinea towards the Philippines. Northward lay the Marianas—Saipan, Tinian, and Guam. The Marianas campaign involved dangers and effort beyond any yet met. Before the invasion of Saipan on 15 June 1944, first the seven new battleships under Vice Adm. W. A. Lee in *Washington,* then the old ones under Adm. J. B. Oldendorf bombarded for 2 days. Thereafter *California, Colorado, Idaho, Maryland, New Mexico, Pennsylvania,* and *Tennessee* gave close support day-after-day to the hard fighting troops and protection to the transports against surprise sea attack.

The new battleships kept busy with the fast carrier task forces. When the Pacific Fleet swept into the Marianas, a 1,000-mile leap from Eniwetok, and opening the way both to the Philippines and Japan, the dismayed foe fought a show-down fight against the Fleet in the Philippine Sea. The battle opened west of Guam early on 19 June, lasting more than 8 hours. Japanese carriers flew off hundreds of planes in desperate effort to get through to Admiral Spruance's flattops. Our carrier aircraft broke up and turned back nearly every raid. Those enemy planes that penetrated, were shot down by a deadly concentration of antiaircraft fire from the new battleships *Alabama, Indiana, Iowa, New Jersey, North Carolina, South Dakota,* and *Washington.* The Japanese had to accept the staggering loss of two aircraft carriers and 346 planes, while the United States lost 36 aircraft and no ships.

Admiral Spruance's fleet could now concentrate on the capture after Saipan of Guam and Tinian with the old battleships continuing their indispensable role. The influence of naval gunfire from the battleships' heavy batteries to the smallest caliber guns of all types of ships is epitomized for most of the Pacific war in statements covering the capture of the Marianas.

In his report on the Saipan operation Rear Adm. Harry W. Hill wrote:

> There can remain little doubt that naval gunfire is the most feared and most effective of all weapons with which the Japanese are confronted in resisting a landing and assault. Without exception, prisoners of war have stated that naval gunfire prevented their movement by day or night and was the most deciding factor in accomplishing their defeat.

Maj. Gen. Roy C. Geiger, USMC, commanding assault troops on Guam praised the gunners with this message:

> The enemy was never able to rally from the

initial bombardment and the continual gunfire support kept him in a state of confusion to the end of the campaign * * *. The positions where we landed were heavily fortified * * * Our naval gunfire and air bombardments were so effective that scarcely a shot was fired at our first four LVT waves until after they were on the beach. At least half of the total amount of fixed defenses were destroyed, and more than that in the vicinity of the landing. Probably 80 percent of the troops defending the beach either were killed or retreated to other positions.

Japanese dispatches, prisoners, and diaries confirmed the effectiveness of naval gunfire in all campaigns, as do these two for the Marianas:

> The greatest single factor in the American success [was] naval gunfire.
>
> The call fire on land is extremely quick and exact and until night attack units are some tens of meters from the enemy, they continue to receive naval gunfire.

Normandy

"Thank God for the United States Navy"

As the Pacific Fleet prepared for the conquest of the Marianas, other battleships in the Atlantic joined in the amphibious assault on a continent. On D-Day, 6 June 1944, as Turner sailed for Saipan, half around the world the Normandy invasion unleashed power from the sea like a giant storm. Battleship *Nevada,* damaged at Pearl Harbor and later active in the Attu landings in the Aleutians, bombarded heavy German shore batteries on the Normandy coast. Calls for gunfire support from paratroopers who had landed, were answered promptly and effectively by *Nevada* and other ships, winning warm gratitude of the assault troops. That evening Maj. Gen. Leonard T. Gerow drafted this simple message, "Thank God for the United States Navy."

From another quarter, *Arkansas* and *Texas* bombarded the invasion beaches, opening breaches in enemy coastal defenses that permitted advance inland. As the soldiers gained a foothold on French soil, the battleships elevated their guns to destroy rail lines, truck convoys, enemy batteries, and troop concentrations well inland. Many army commanders, friend and foe, commented on the significance of naval gunfire both on the strong beach defenses and deep inshore where the great guns reached. After inspecting the near impregnable defenses of Omaha Beach, Col. S. B. Mason, Chief of Staff of the 1st Infantry Division said *"There was one element of the attack they could not parry. I am now convinced that our supporting naval gunfire got us in * * * without that gunfire we could not have crossed the beaches * * *."*

Speaking of the long-reach inland of the heavy guns afloat, Field Marshall Gerd von Runstedt, unable to halt the invasion, observed that "* * * *the fire of your battleships was a major factor in hampering our counter-attacks. This was a big surprise both in range and effect* * * *." Field Marshall Rommel, who had lost his African campaign the year before under similar circumstances, noted that "* * * *German operations in Normandy were seriously upset by the effect of the heavy naval guns."* Even the land-minded Hitler, in reviewing the debacle of Normandy, insisted that every effort must be bent toward, "* * * *destruction of the enemy's battleships."*

A near miss by an 11" projectile falls between USS *Arkansas* (BB–33), foreground, and USS *Texas* (BB–35) near Cherbourg during the invasion of Normandy, 6 June 1944.

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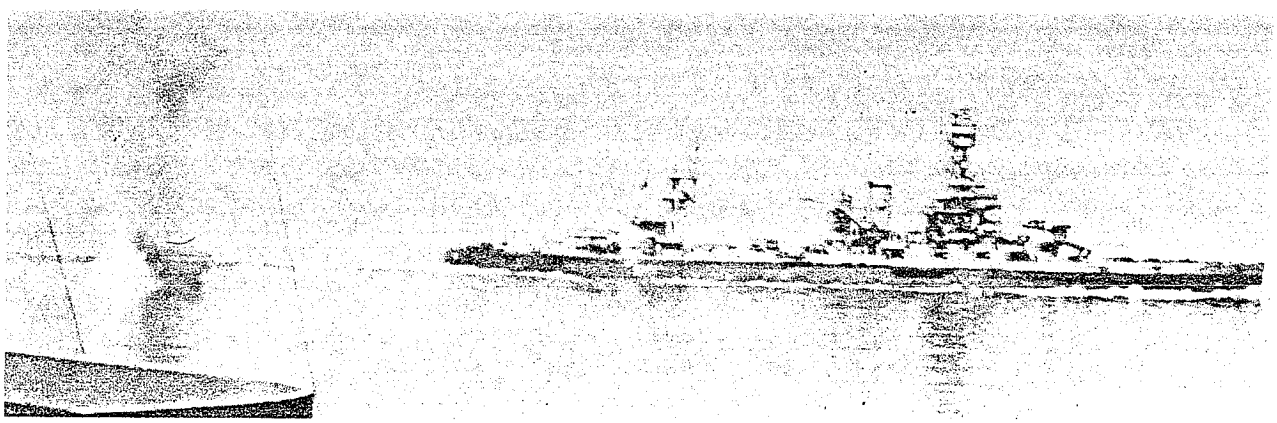

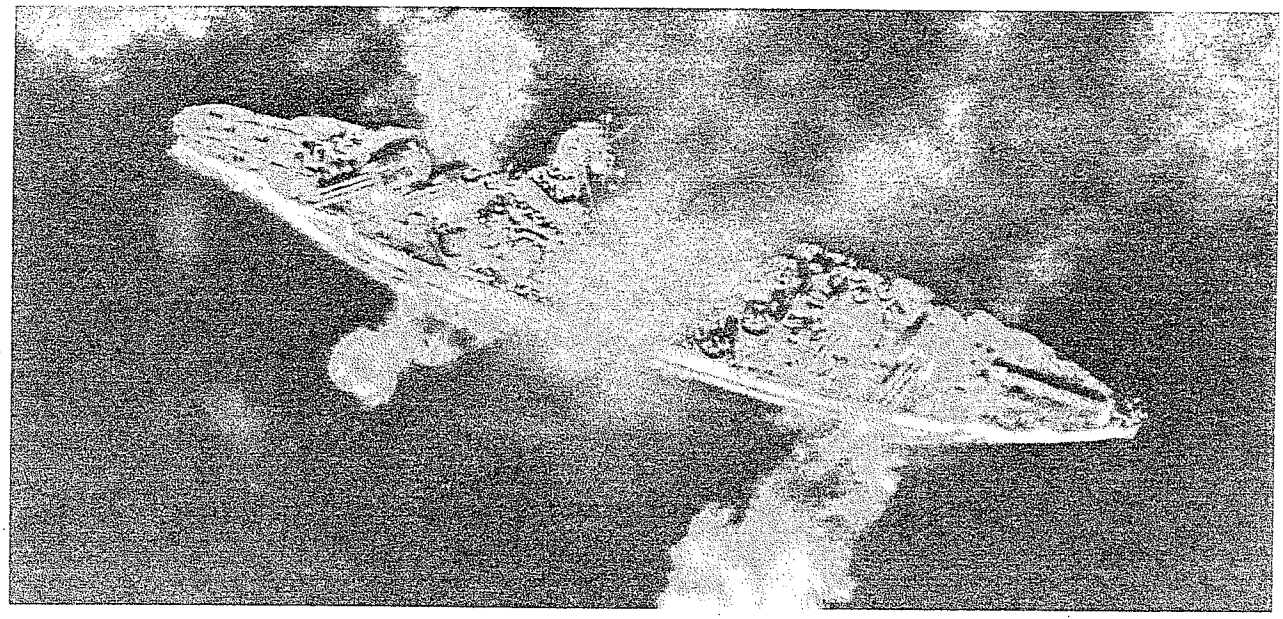

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USS *Pennsylvania* (BB–38) shells installations on Guam with her 14" guns 21 July 1944

When the invasion of Southern France began in mid-August, *Nevada, Texas,* and *Arkansas,* work horses of the invasion fleet, again bombarded shore targets with telling effect.

Invasion of the Philippines

"I firmly believe that it is not wise and statesmanly for our leaders, in this their darkest hour, to teach our people to avoid sufferings and hardships at the sacrifice of fundamental principles * * *. We shall never win or deserve the esteem and respect of other nations if we lack principles and if we do not possess the courage and valor to defend those principles at any cost."

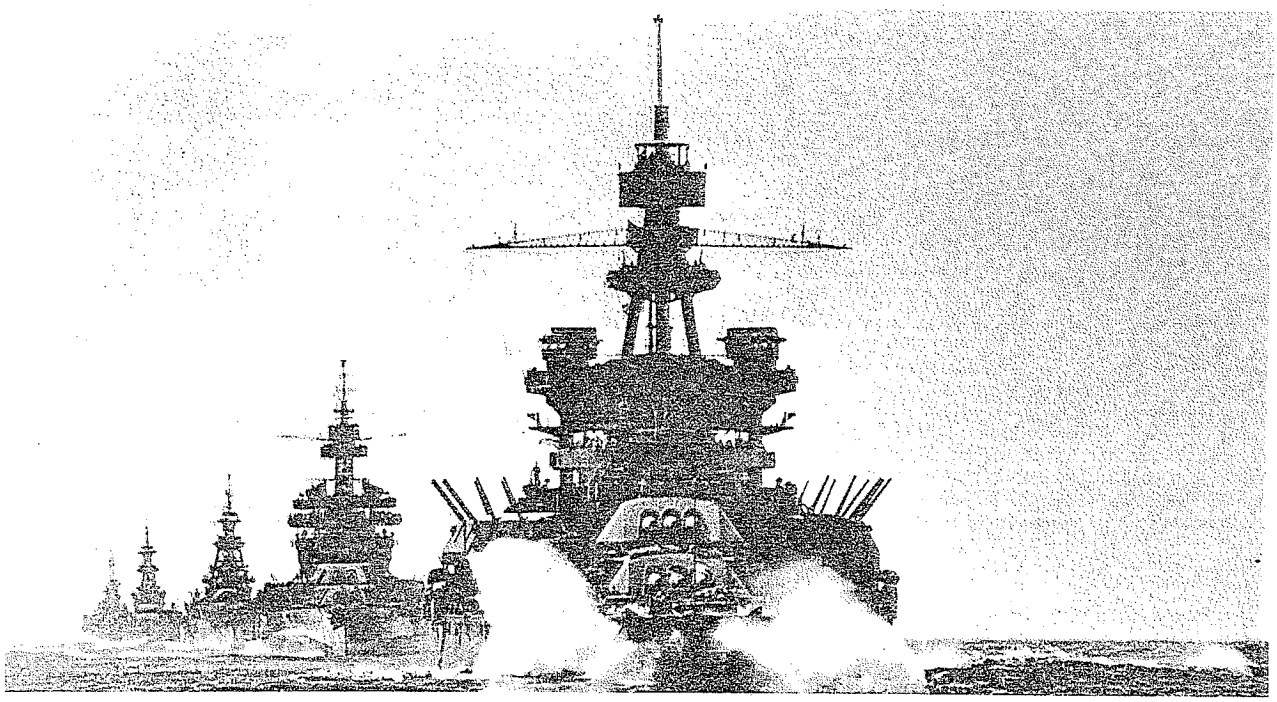
Tomás Confessor, Gov. of Iloilo, 1943.

As allied armies battled their way east and north across Europe, the Pacific fleets steadily drove on west and north towards Japan.

Admiral Nimitz's forces under the shield of carrier aircraft and battleships had swept in long amphibious leaps across the central Pacific. General MacArthur pushed in the short jumps permitted by land based air along New Guinea behind the spearhead of the 7th Fleet. Here the Japanese had relatively weak shore defenses except in certain locations which could usually be bypassed with the mobile fleet and the ability of the amphibians to land almost anywhere. Hence, except for the bombardment of Kavieng by *Idaho, New Mexico, Mississippi,* and *Tennessee* in March, soon after the capture of Eniwetok, the heavy guns of the old battleships were employed in smashing the strong fortifications of the atolls and the Marianas in the Central Pacific campaign.

Leyte was different. The Japanese concentrated power to meet the assault. So now the Central Pacific Fleet turned south to provide the air and gunpower needed. After the fall of Guam the old battleships blasted away at the caves of Peleliu in September, hurriedly replenished, and prepared for Leyte. On 20 October, 1944, carrying out MacArthur's promise, "I will return," the invasion fleet steamed into Leyte Gulf under the air umbrella from escort carriers and behind the great guns of *California, Maryland, Mississippi, Pennsylvania, Tennessee,* and *West Virginia,* the latter now back in battle line at the right time to even the score for Pearl Harbor.

The Japanese, meanwhile, assembled every available warship to frustrate the Philippine landings. Their effectiveness had been greatly diminished, particularly in airpower after the plane and pilot losses in the Battle of the Philippine Sea. Remaining strength afloat included two gigantic battleships *Musashi* and *Yamato,* the largest in the world,



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USS *Pennsylvania* (BB–38) leads USS *Colorado* (BB–45), USS *Louisville* (CA–28), USS *Portland* (CA–33), and USS *Columbia* (CL–56) in battle line entering Lingayen Gulf January 1945.

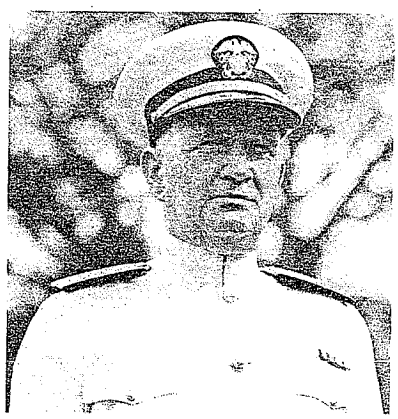
mounting 18.1-inch guns.

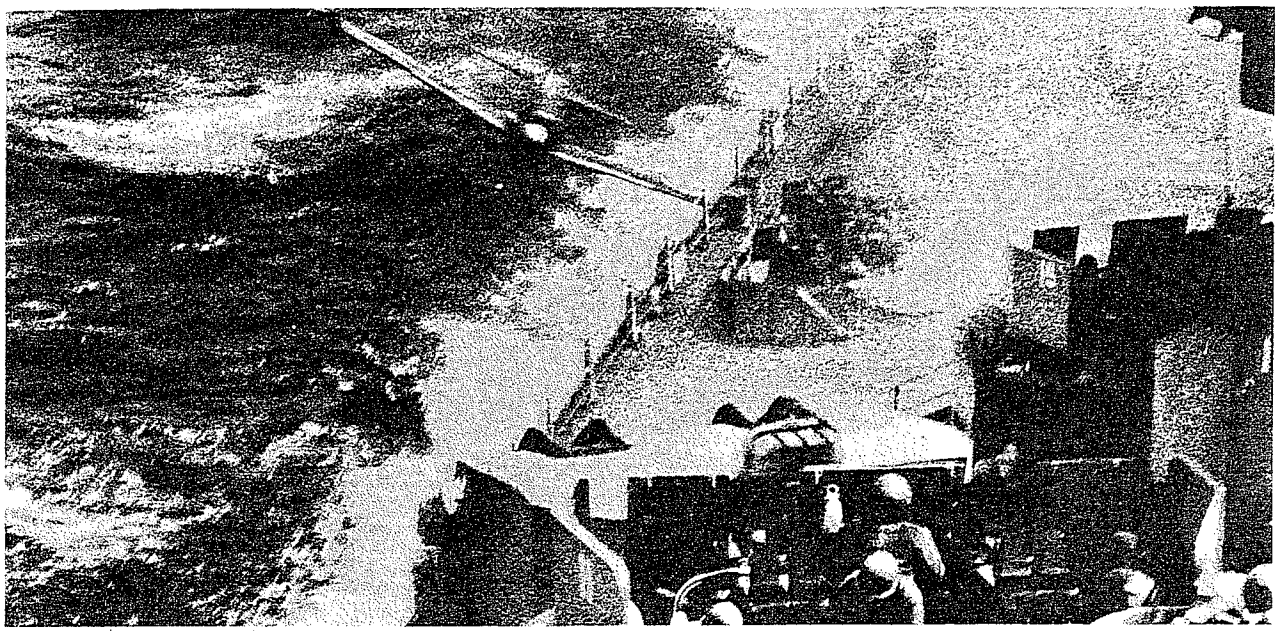
On 23 October, the Battle of Leyte Gulf began, with ensuing separate naval actions in the Sibuyan Sea, Surigao Strait, off the Island of Samar and off Cape Engano as the Japanese attacked from widely separate directions. Hardly had the battle begun when two enemy cruisers were sunk and a third damaged by submarines *Darter* and *Dace*. Land based Japanese planes attacked part of the fast carrier force attached to Admiral Halsey's 3d Fleet. Most were shot down, but one got through and bombed light carrier *Princeton*. Exploding torpedoes stowed below led to her loss. Fighters, torpedo planes and bombers from six carriers pounded the super battleship *Musashi*. Without air protection and overwhelmed by numbers, the giant took 17 bombs and 19 torpedoes before she capsized and sank in the Sibuyan Sea with great loss of life.

One Japanese force, comprising battleships *Yamashiro* and *Fuso,* cruiser *Mogami* and four destroyers tried to enter Leyte Gulf through Surigao Strait. During the night of the 25th, Admiral Oldendorf's advanced destroyers torpedoed *Fuso,* forcing her to sheer out of formation in a sinking condition. The torpedo attacks also sank two of the destroyers and knocked the bow off a third. The other ships continued on, only to face Admiral Oldendorf who had spread his battleships and cruisers across the entrance to the Gulf. In this surface action that dropped the curtain on battle line tactics begun with the ship of the line centuries earlier, Admiral Oldendorf gained the classic tactical advantage of crossing the "T." *West Virginia, Tennessee,* and *California,*

Rear Admiral Jesse B. Oldendorf

80G451546





NRL(M)32662

Kamikaze smashes into armored side of USS *Missouri* (BB–63), 11 April 1945, causing only slight damage while she is escorting fast carriers of Task Force 58 in support of Okinawa operation.

equipped with new fire control radar, hit the Japanese ships with pinpointed 16- and 14-inch armor-piercing salvos; *Maryland* and *Mississippi* joined in. *Yamashiro* was sunk before dawn by gunfire and torpedoes, and crippled *Mogami* finished off by carrier planes after daybreak.

The battle that continued until the evening of the 26th meant the eclipse of Japanese naval power. The Rising Sun flag went down with four carriers, three battleships, 10 cruisers, several destroyers and submarines, and almost 350 aircraft. To conceal the disaster, Japanese naval officials publicly announced that Admiral Halsey's entire 3d Fleet had been sent to the bottom. With his customary aplomb Admiral Halsey broadcast one of his sparkling messages: "Our ships have been salvaged and are retiring at high speed toward the Japanese Fleet."

Battleships new and old served well in many other places as a resistless tide of power closed in on Japan. In January 1945, the new battleships *Alabama, Iowa, New Jersey, North Carolina, Massachusetts, South Dakota, Washington,* and *Wisconsin,* as part of the vast carrier striking forces, ranged down the South China Sea as the planes struck from Hanoi to Formosa. Meanwhile the old battleships "stuck their heads into the lion's mouth." *California, Mississippi, New Mexico, Pennsylvania,* and *West Virginia* plunged up through the kamikaze skies west of Luzon into the heart of Japanese air power in the Philippines to convoy the assault troops to Lingayen, north of Manila.

Victory at Sea

"Control of the sea means security; control of the sea means peace; control of the sea means victory."

—John F. Kennedy.

At Iwo Jima the old battleships included *Colorado, Idaho, Maryland,* and *Tennessee,* sturdy stalwarts of the Pacific War; the three stars of Normandy and Southern France invasions *Nevada, Texas,* and *Arkansas* (now in her 36th year since keel-laying); and *New York,* nearly as old as the "Ark," now bringing her batteries to bear into Japan's home seas half around the world from her first amphibious assault into North Africa. Their main caliber guns smashed targets invulnerable to other fire or bombing. For example, *Nevada* knocked out blockhouse after blockhouse threatening the landings. Later she took under fire the heights beyond the beach. Two rounds took care of a gun firing from a cave. They tore a great hole in the cliff, and when the dust settled both cave and gun had

disappeared.

It was a desperate campaign which Lt. Gen. Holland M. Smith called "the most savage and the most costly" in Marine Corps' history, and of which Admiral Nimitz observed "uncommon valor was a common virtue." Yet the cost would have been far greater without the punishing fire of the old battleships and other fire support ships that day after day served the Marines well. Furthermore, the capture of Iwo Jima with the airfield developed to aid B–29's in their attacks, contributed much to final victory. All of the many B–29 pilots who landed safely on Iwo instead of having to ditch into the sea echoed the words of one of them, "whenever I land on this island, I thank God and the Marines who fought for it."

Battleships old and new continued their victorious roles in the last giant amphibious assault, the invasion of Okinawa, the door to Japan. Following 5 days of attack by carrier aircraft on the Japanese mainland, the battleships *Alabama, Iowa, Indiana, Massachusetts, Missouri, New Jersey, North Carolina, South Dakota, Washington,* and *Wisconsin* diverted temporarily from protecting the carriers to bombard the strong Okinawa defenses on 24 March 1945.

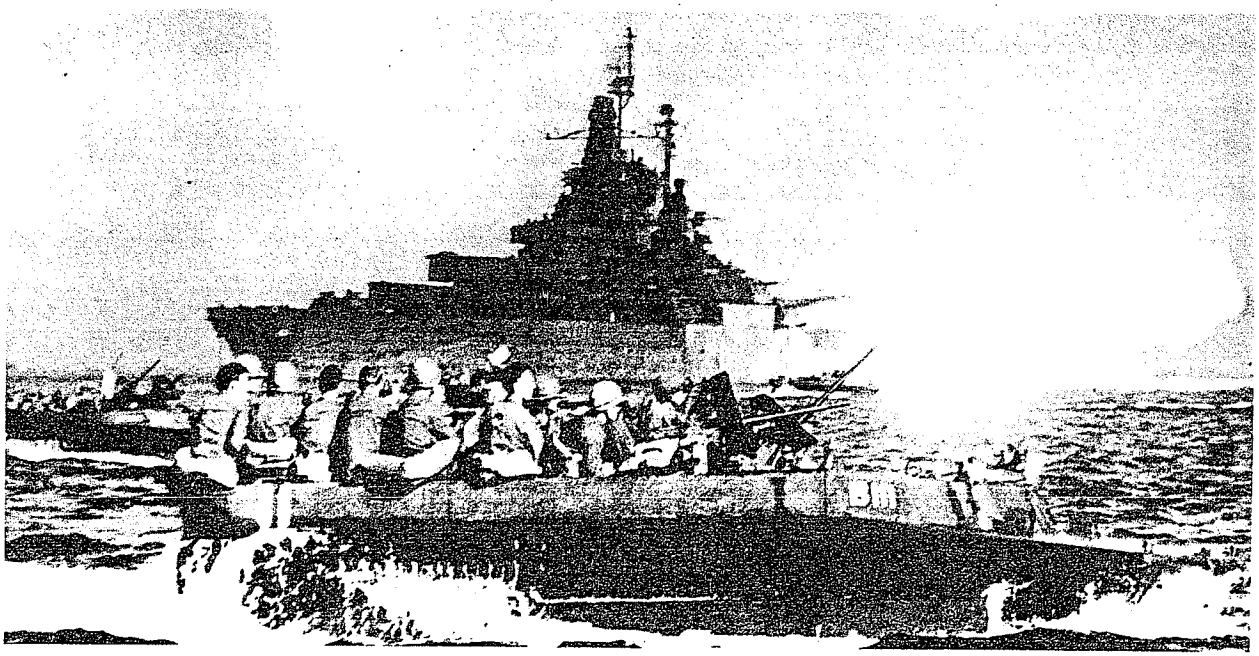
Then the old battleships, masters of shore bombardment, took over under the noted master of gunnery, Rear Adm. W. H. P. Blandy. Ten staunch veterans proudly steamed to Okinawa—*Arkansas, Colorado, Idaho, Maryland, New Mexico, New York, Nevada, Tennessee, Texas,* and *West Virginia.* Under his calm command, day after day in unhurried precision bombardment, they knocked out enemy batteries and strong points. Although close to Japan, open to a swarm of kamikaze attacks, they cruised offshore methodically blasting targets. Their effective preparatory fire, and the Japanese's bitter experience in trying to resist previous landings on the beach against the hail of gunfire from support ships of all sizes, lead the enemy to draw back his main forces so that the marines and soldiers went ashore standing up. The planners had considered that it might take a week to capture Yontan airfield yet so much had the foe pulled back that the marines swarmed over the field by noon of the landing day, 1 April.

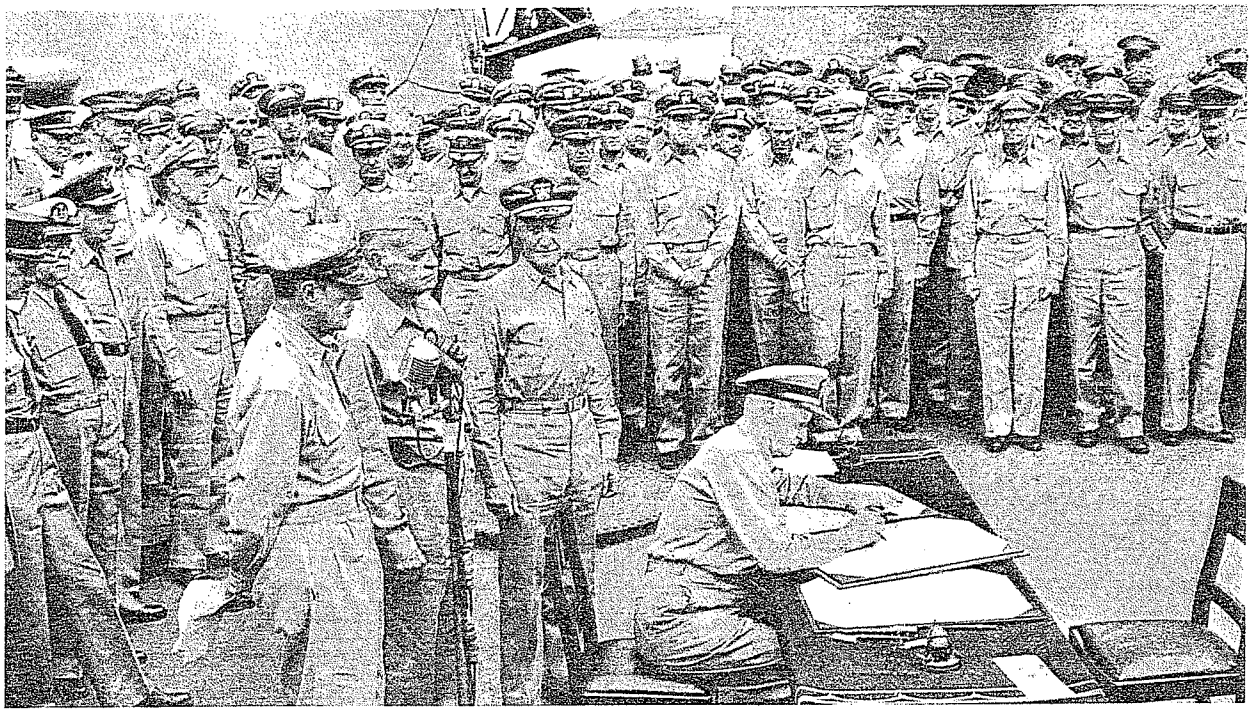
The Japanese managed a final naval effort to stem the American advance but it was crushed by U.S. carrier planes soon after leaving Japan's Inland Sea. Repeatedly attacked by overwhelming numbers and without protecting carrier fighters, the giant battleship *Yamato,* sistership of *Musashi,* was sunk, along with cruiser *Yahagi* and four of the eight escorting destroyers.

On 14 July Rear Adm. John F. Shafroth, com-

USS *Tennessee* (BB–43) provides cover for troops landing on Iowa Jima, 10 February 1945.

NRL(M)28597





USN701293

Japanese surrender unconditionally 2 September 1945 on board USS *Missouri* (BB–63) with Fleet Admiral Chester W. Nimitz signing for the United States.

manding a force made up of *South Dakota, Indiana,* and *Massachusetts,* cruisers and destroyers, boldly steamed to the shores of the home islands of Japan and bombarded the Kamaishi Iron Works. Repeated on 9 August, production at the plant ceased.

Japanese kamikaze pilots continued attacks on the fleet doing considerable damage, but it was a last desperate gesture without effect on the outcome of the war. Defeated at sea, Japan's cause was hopeless, as the atomic bombs emphasized. Not many more weeks passed until the U.S. Fleet sailed into Tokyo Bay and on 2 September 1945, the surrender was signed, appropriately on board battleship *Missouri*—for without victory at sea no victory could have been won.

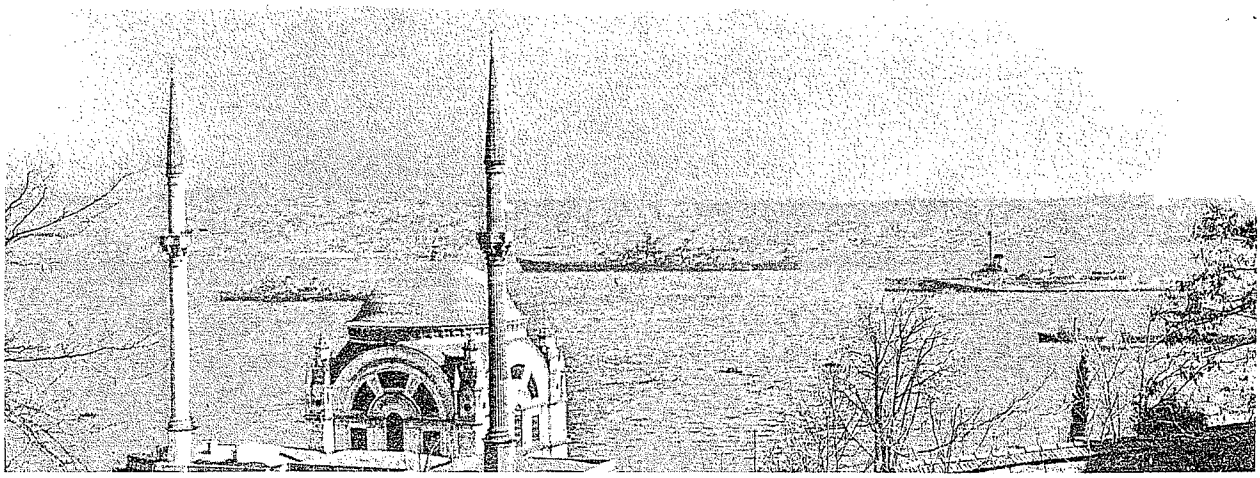
9. VICTORY WON—PEACE LOST

"If peace cannot be maintained with honour,
it is no longer peace."

—Lord John Russell.

It was not only the end of World War II, but in the minds of many, the end of an era gone up in the atomic blast. Air-minded propagandists, as we have seen, had predicted the end of battleships and indeed of surface navies in 1921. Now again in 1945 new military prophets were sure that the day of the battleship was at last over, and with it that of the new "ship of the line," the far-ranging aircraft carrier that had spearheaded and played a major role in victory.

Nuclear power and long-range missiles, along with long-range heavy bombers, they claimed had made both the battleship and the carrier and most other surface warships a thing of the past. Many men were deluded and put their faith in a single weapon of the atomic bomb, transported in a high-flying plane. Hence, battleships which had been indispensable to victory rapidly were decommissioned. Short-sighted men even forced the retirement of most of the Navy's carriers and envisioned the disposition of all of them in a short time. Hence, the Navy began to lose at the same time the authoritative power of the battleship's big guns and the far-reaching precise attack capabilities of its aircraft carriers. It appeared that the fleet would no longer have a "ship of the line," a heavyweight champion for the inevitable demands the future would bring.



80G366179

USS *Missouri* (BB–63) projects U.S. Power to Istanbul, Turkey, April 1946. *Missouri's* freedom cruise was a success without the necessity of firing a shot. (Note Turkish battlecruiser *Yavuz* in background.)

During the early postwar years the Soviet Union took advantage of unrest to spread the empire of communism. The Eastern Mediterranean in general and Greece and Turkey in particular, became communist targets. The United States, as leader of the democratic world, made a counter move. Battleship *Missouri,* fresh from the victories of Iwo Jima and Okinawa, and the scene of Japanese surrender, was selected. Symbol and visible evidence of American power, her imposing presence would significantly influence events 5,000 miles away without firing a shot.

Taking on board the remains of the late Turkish Ambassador Ertegun on 21 March 1946, *Missouri* steamed to Istanbul and there fired a 19-gun salute in honor of the dead statesman. She then proceeded to Piraeus, Greece to receive another enthusiastic welcome. The visit had far-reaching effect. Greek newspapers observed:

> Russia knocks threateningly at the land gates of Turkey. America knocks at the sea gates * * * in a friendly way and pays a visit, saying, 'Don't be afraid, I'm here'.
>
> The Russian shadow is cast over the Balkans. So America comes and tells us 'Sit tight and don't worry. I'm with you'.
>
> The arrival of *Missouri* is a gesture of good will * * * a symbol of freedom and justice for the whole world.

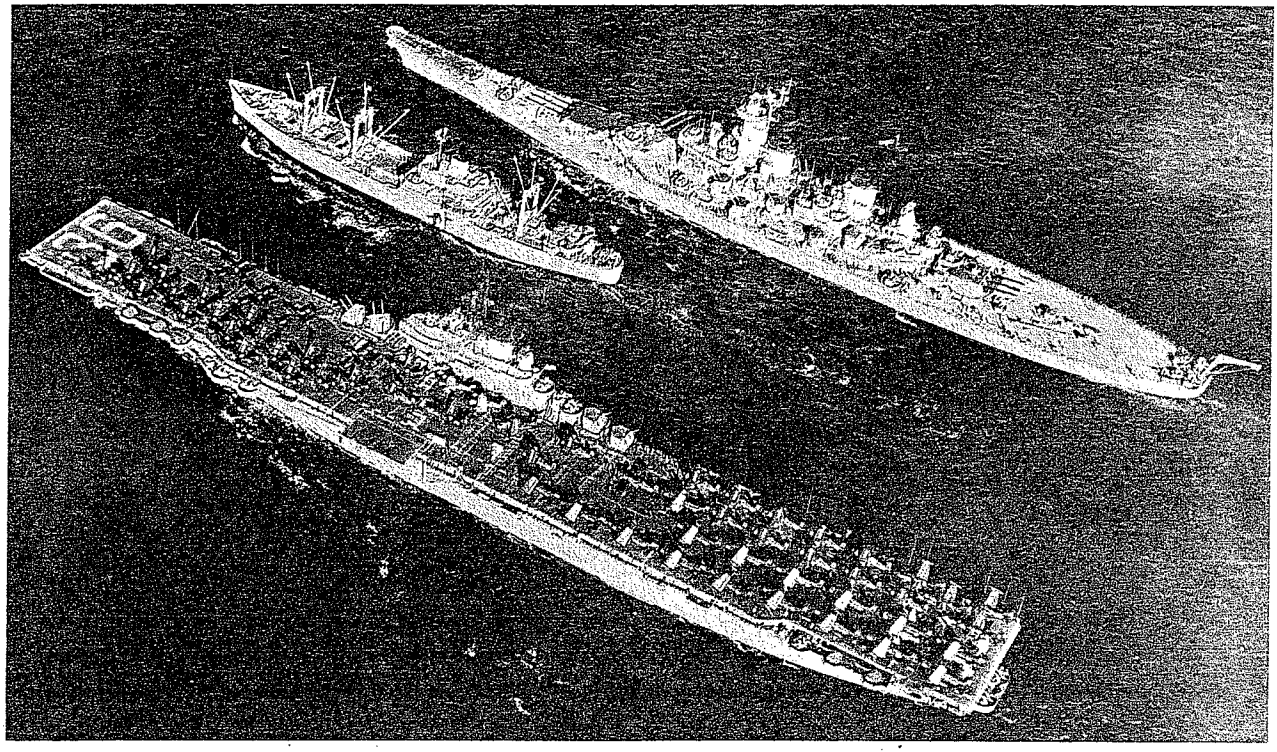
From Greece, *Missouri* sailed to Italy, North Africa, and Gibraltar, showing the flag over much the same area as sailing ships *Independence, Washington, Franklin, North Carolina,* and *Columbus* had done over a hundred years previously. The unqualified success of her diplomatic cruise led to the formation of the 6th Fleet which became a potent counter balance to the massive Soviet armies overshadowing the Mediterranean and Middle East. Walter Lippmann succinctly stated the key importance of U.S. seapower in the Mediterranean, which *Missouri* had so dramatically highlighted:

> The Red Army which dominates eastern Europe and could not be removed by a diplomatic frontal attack, can be outflanked in the eastern Mediterranean.

United States seapower had steamed thousands of miles to influence events, great and small, in the cause of stability and peace. Mahan's words of the 19th century regarding the British Fleet and Napoleon's ambitions again applied: "These far distant, storm beaten ships, upon which the Grand Army never looked, stood between it and the dominion of the World."

Missouri was again destined to play a part in the Far East when Soviet puppet North Korea invaded the free republic to the south. The ensuing Korean War would last for the next 3 years and involve the United States on land, on sea and in the air.

When the conflict erupted, *Missouri* was the only battleship in commission. She arrived off Korea in mid-September 1950, and once again demonstrated the power of her 16-inch guns that reached far beyond the coast to destroy railroad bridges, ware-



80G440189

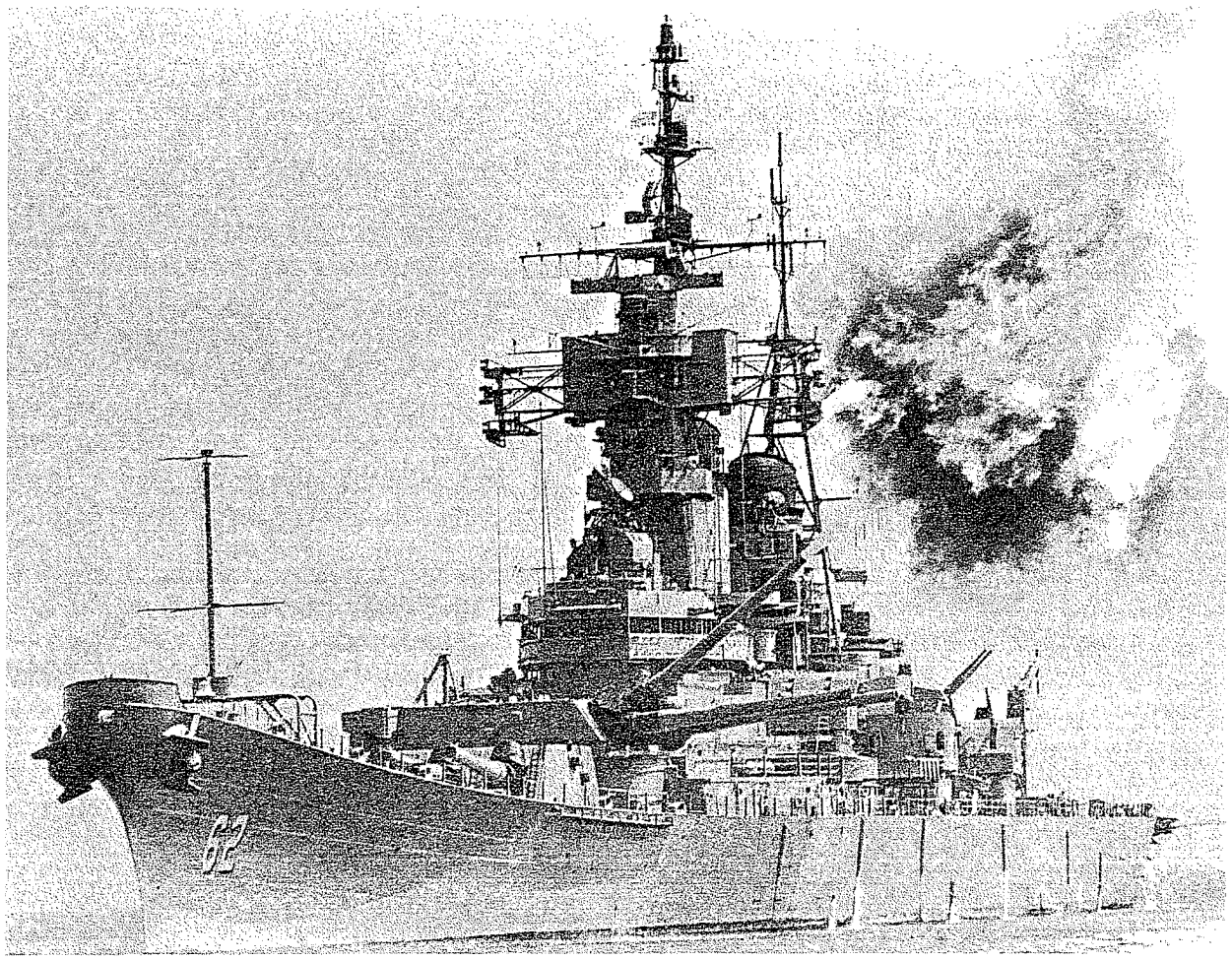
USS *Rainier* (AE–5) pulls away after replenishing USS *Antietam* (CV–36) and USS *Wisconsin* (BB–64) in Korean waters, 9 February 1952.

houses, rolling stock, marshalling yards, tank and troop concentrations. Subsequently *Iowa, New Jersey,* and *Wisconsin* recommissioned to serve in Korea, along with many other Pacific veterans. They operated on both Korean coasts. For example, in February 1952, *Missouri* bombarded the multiple bridges that span the double rivers to Tanchen. *Iowa,* which had already softened up many shore targets, shattered heavy gun positions south of Wonsan in June 1952. In September *New Jersey* covered the U.S. Army's X Corps in a night barrage that pulverized enemy gun positions. *New Jersey* alone fired 3,600 rounds of 16-inch projectiles during the Korean War.

After the fighting in Korea ended, the new battleships, called back to serve the nation, again one by one returned to mothballs in the name of economy—*Wisconsin* the last in 1958. Meanwhile the proud old battleships now far beyond normal life, went to the scrappers except for *Texas*. Happily the patriotic citizens of her home state reserved this noble warrior as a memorial to valor and service and the meaning of seapower in the nation's destiny. She now lies in Houston, the nation's only surviving World War I battleship.

As revolutions in weapons sped on and the need for a number of battleships even in Korean-like wars seemed to lessen, the first of the new battleships of World War II, now also aging, began to be scrapped. Happily in three States dedicated patriots led a wave of interest that has resulted in the preservation of *North Carolina, Alabama,* and *Massachusetts* as inspiring memorials.

The United States' first battleships were small, not as large as heavy cruisers built later. The size of all ships increased rapidly after 1900—today the latest Polaris submarine has a tonnage about that of our first battleships—*Indiana, Massachusetts,* and *Oregon*. Not until *Delaware* (BB–28), commissioned in 1910, did the United States build a battleship of as much as 20,000 tons. Thereafter we built 29 more, the last four of the *Missouri* class rated at 45,000 tons, and at full load displacing about a third more. Of these 29, 14 helped win World War I, and 25 had an outstanding role as powerhouses in winning World War II, although they served different functions than originally conceived. This handful of ships, alone in World War I and teamed



USN1137978

USS *New Jersey* (BB–62) fires toward target in Vietnam.

with the aircraft carriers in World War II, sailed as the strong backbone of the fleet. How little the cost compared to the vast dividends to the nation. How much the few remaining may continue to prove worthwhile investments, as *New Jersey* off Vietnam illustrated in 1968–69.

Following a period during which there were no commissioned battleships in the U.S. Navy, *New Jersey* recommissioned for Vietnam duty. The battleship filled a need there which could not be met with any other weapon, providing big gun support for troops distant from the coast. Her 16-inch guns reaching miles inland shattered concealed enemy targets, bridges, guns, troop concentrations. Protected by heavy armor and mounting numerous rapid-firing 5-inch guns, she steamed close to the coast, smothering hostile shore batteries. Driven by 212,000 shaft horsepower, she swiftly shifted firing position at speeds up to 33 knots. Little hampered, even by storms, she was not restricted in operations, as are aircraft. She struck the enemy continuously, day or night, in any weather, at any time of the year, and did this without sacrificing the life of bomber pilots or costly jet aircraft.

On 6 April 1968 as she recommissioned, Secretary of the Navy Paul R. Ignatius observed that the officers and men of *New Jersey* were ready for their task. "But," he added, "their patience, determination, and courage must be matched by our own. For neither this battleship—nor all the ships of the U.S. Fleet—can succeed without the support and understanding of the American people." This statement gains sad significance in late 1969 when too many Americans have failed to give their under-

standing and support to those on the front line fighting for America's destiny and future. As this publication goes to press, the Secretary of Defense has announced that in the name of economy, *New Jersey,* that ran "like a jewelled watch," returns again to mothballs.

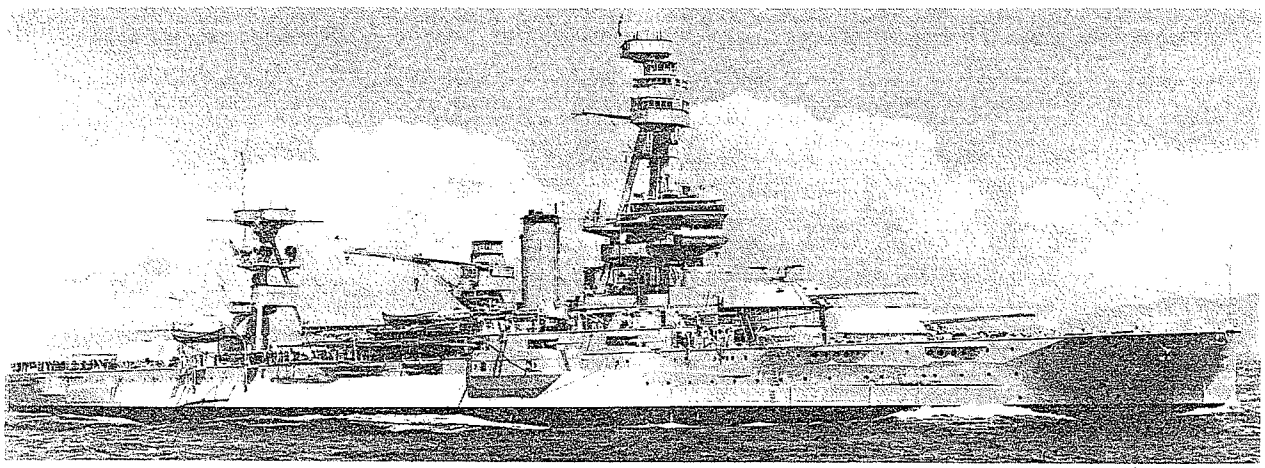
This is particularly sad because of the meaning of this hard hitting warship to those fighting for their lives and for freedom in Vietnam. Not long before the announcement of her retirement a marine lance corporal serving in Vietnam wrote to the Director of Naval History for some information on battleships and in his letter reflected some of the outstanding results of *New Jersey*'s operations off that troubled land. Asking if we had more battleships we could take out of mothballs, if needed, he wrote, "I have seen the *New Jersey* fire, and I can tell you that the marines found it a great comfort to know that if we needed her we could have her. I can say that I slept a little better knowing that ship was around."

South Dakota, Indiana, and *Washington* have been scrapped. *Iowa, Missouri,* and *Wisconsin* remain in "mothballs" (and *New Jersey* joins again) against the day when they may be called upon to perform service with the fleet.

As mentioned, four of these majestic far-ranging fortresses have become historic naval memorials. *Texas* adjoins San Jacinto Park, Houston; *Alabama* has an imposing site in Mobile Bay; *North Carolina* lies across the river dominating downtown Wilmington; *Massachusetts* at Fall River flies the Stars and Stripes beside the Pine Tree Flag of the original Massachusetts Navy. *New Jersey* will undoubtedly

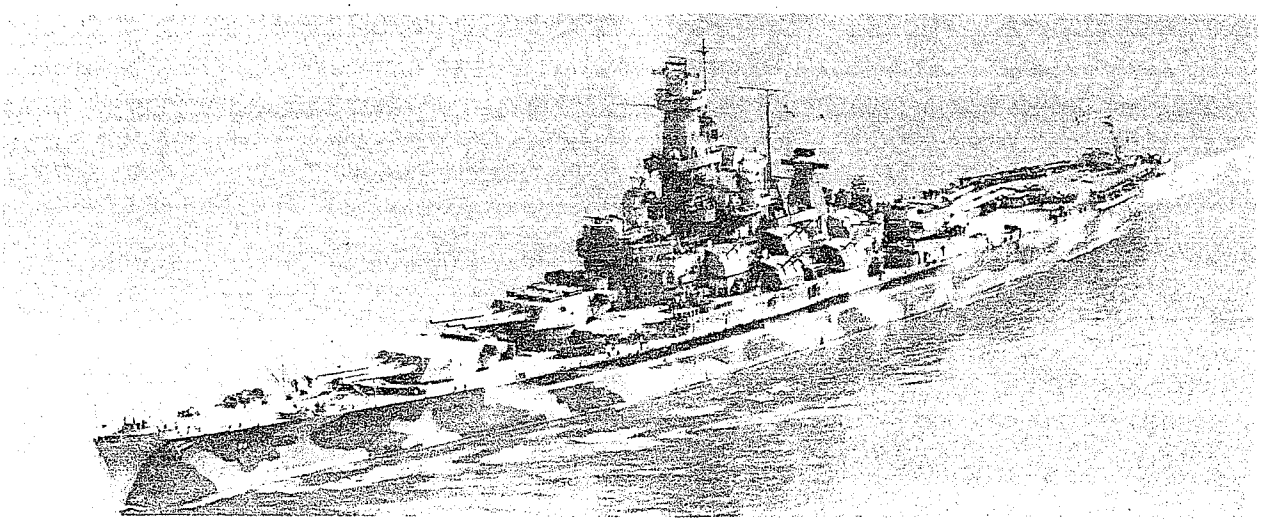
USS *Texas* (BB–35)

NR&L(M)35104



USS *Alabama* (BB–60), 1 Dec. 1942.

80G31552



join them some day as a memorial since a commission has already formed and has requested this noble battleship for permanent display at Atlantic City.

In addition, *Missouri* is moored in the Puget Sound Naval Shipyard and a permanent memorial rises over *Arizona* sunk in Pearl Harbor. Along with frigate *Constitution* at Boston, *Constellation* at Baltimore, Admiral Dewey's flagship *Olympia* at Philadelphia, and the fleet submarines *Cabrilla* at Houston and *Drum* at Mobile, these magnificent warships remain as living memorials to American seapower and the cause of freedom for which they so valiantly fought. Long into the future citizens will be inspired as they walk these historic decks where brave men projected the power of America far overseas greatly to serve that freedom which the ships and men of today's Navy stand ever ready to defend.[9]

The wooden ship-of-the-line * * * the ironclad * * * the steel battleship * * * the aircraft carrier and the battleship together * * * and now the aircraft carrier alone, have all served for a space as the backbone of the fighting fleet. Each served well and nobly filled a need commensurate with the types of arms and weapons of the time.

New weapons have always replaced former types and the days when ships in sight of each other exchanged gunfire have passed as the principal factor in naval operations. However, the importance of warships themselves has increased. Each change in weapons, each development of science and technology, has served only to heighten the relative importance of seapower in total national strength. As the Industrial Revolution mushroomed, strength based afloat steadily gained in capability to overwhelm that based ashore. The big guns of the battleship reach over 20 miles inland. Planes from speeding aircraft carriers fly hundreds of miles beyond the coast. Polaris and now Poseidon missiles from submarines can soar into the heart of continents. Thus, as the world becomes more and more "One World" do the seas and strength on them become, even more than ever in the past, the very life blood of freedom which the battleship so long, so well defended.

[9] See *Historic Ship Exhibits* (Nav. Hist., Div., 1969; Government Printing Office, 70¢) for further information on memorialized warships that have been "strength and salvation" of America.

USS *North Carolina* (BB–55)

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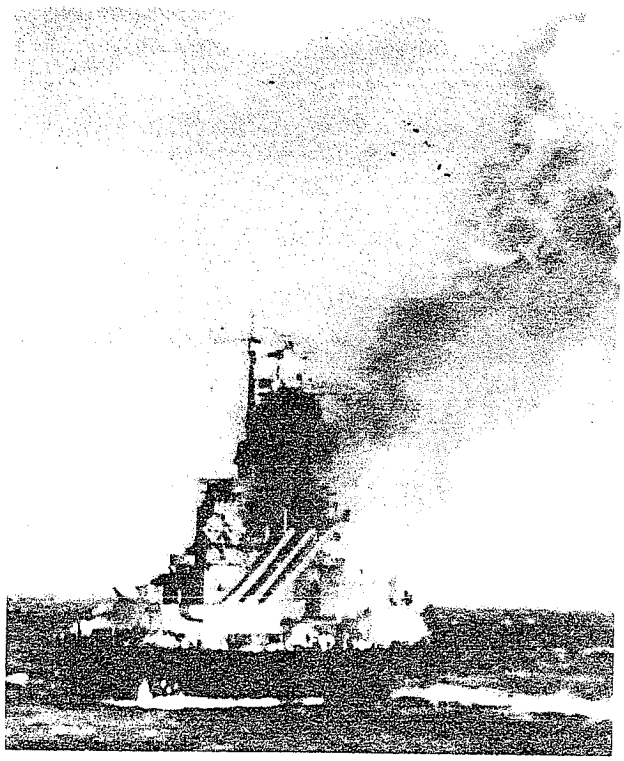

USS *Massachusetts* (BB–59), 12 May 1942.

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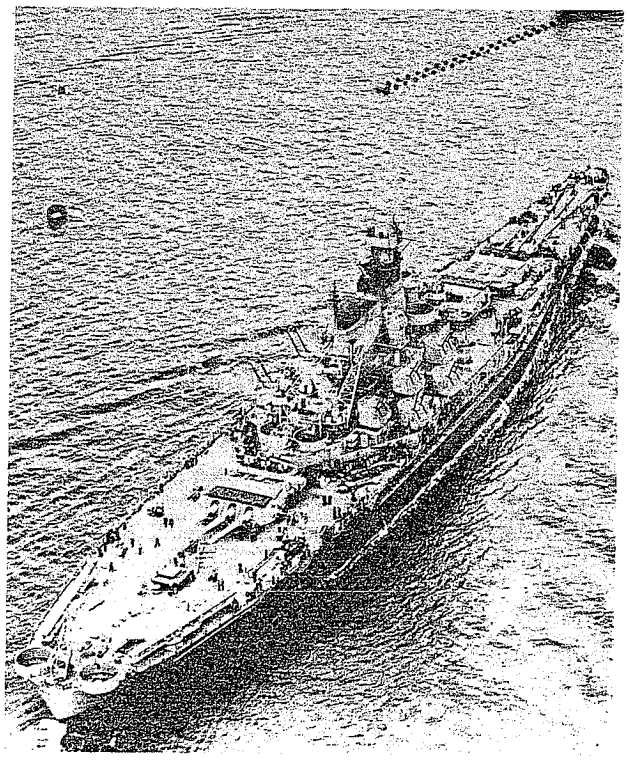
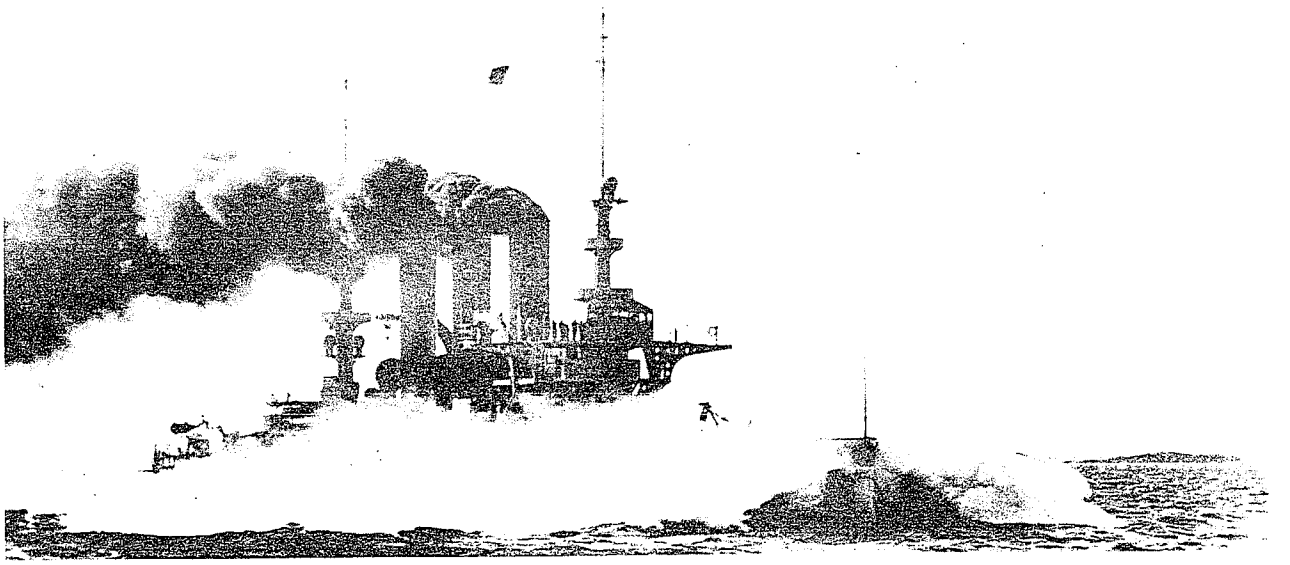


UNITED STATES BATTLESHIPS DISPOSED OF

Name	Keel laid	Commissioned	Complement		Armament; guns (smaller-caliber weapons are not itemized)	Tubes	Armor maximum thickness
			Officers	Men			
Texas	1 Jun 89	15 Aug 95	30	362	(2) 12″/35, (2) 6″/35, (4) 6″/30, (12) 6 pdr.	(4) 14″	12″
Maine	17 Oct 88	17 Sep 95	31	343	(4) 10″/30, (6) 6″/30, (7) 6 pdr.	do	12″
Indiana (1)	7 May 91	20 Nov 95	32	441	(4) 13″/35, (8) 8″/35, (4) 6″/40, (20) 6 pdr.	(4) 18″	18″
Massachusetts (2)	25 Jun 91	10 Jun 96	32	441	do	do	do
Oregon (3)	19 Nov 91	15 Jul 96	32	441	do	do	do
Iowa (4)	5 Aug 93	16 Jun 97	36	450	(4) 12″/35, (8) 8″/35, (6) 4″/40, (20) 6 pdr.	(4) 14″	15″
Kearsarge (5)	30 Jun 96	20 Feb 00	40	513	(4) 13″/35, (4) 8″/35, (14) 5″/40, (20) 6 pdr.	(4) 18″	17″

USS *Virginia* (BB–13) on trials.

19N11154

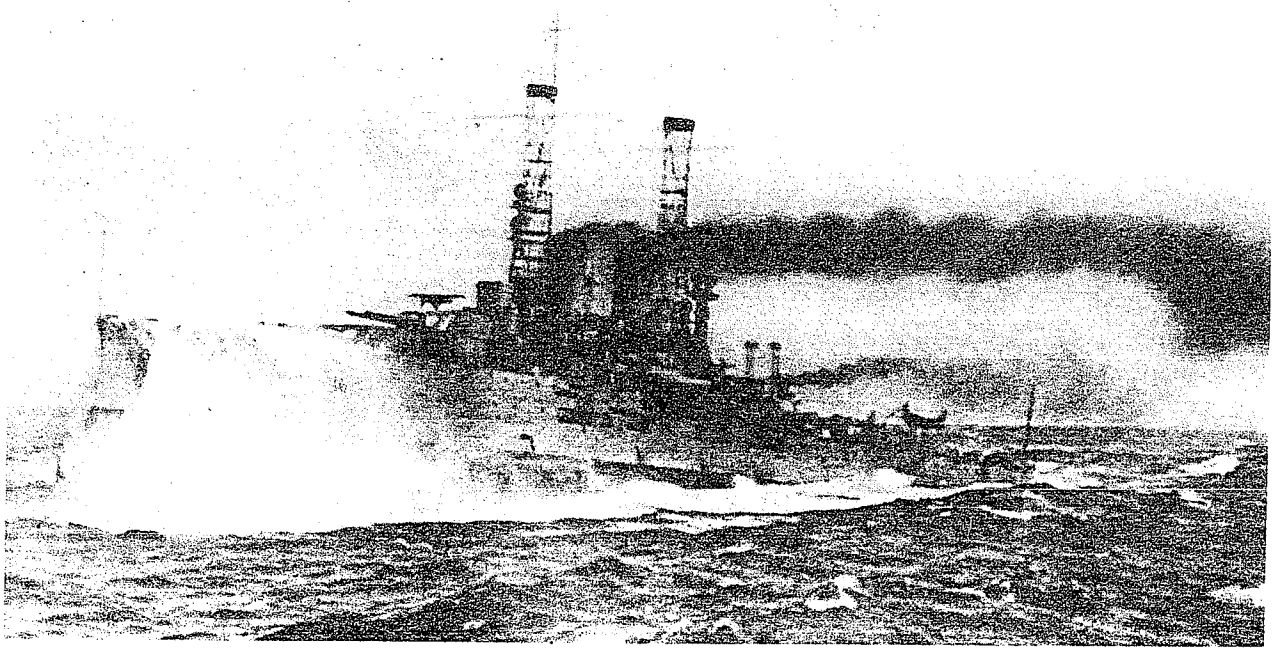


BATTLESHIPS
BEFORE WORLD WAR II

Dimensions (L.o.a. x Ext. beam x displacement)	Designed speed	Designed horsepower	Engines	Last decommissioned	Disposal
308′10″ x 64′1″ x 6,315.....	17	8, 600	Vertical 3-expansion reciprocal.	11 Feb 11	Name changed to *San Marcos* 16 February 1911. Sunk as gunnery target 20 March 1911.
319′ x 57′ x 6,682.....	17	6, 682	.....do.....	.....do.....	Destroyed by explosion, Havana Harbor, 15 February 1898. Hulk salvaged 1911–12; sunk in Straits of Florida 16 March 1912.
350′11″ x 69′3″ x 10,288....	15	9, 000	.....do.....	31 Mar 19	Name changed to Coast Battleship No. 1, 29 March 1919. Sunk as bomb target, 1 November 1920.
.....do.....	15	9, 000	.....do.....	.....do.....	Named changed to Coast Battleship No. 2, 29 March 1919. Struck 22 November 1920; sunk as Army artillery target.
.....do.....	15	9, 000	.....do.....	4 Oct 19	Demilitarized 4 January 1924. Lent to State of Oregon as Memorial. Sold for scrapping 7 December 1942. Reacquired by Navy September 1943. Used as explosives hulk. Sold for scrapping 15 March 1956.
362′5″ x 72′3″ x 11,410.....	15	11, 000	.....do.....	31 Mar 20	Name changed to Coast Battleship No. 4, 29 March 1919. Sunk as gunnery target 22 March 1923.
375′4″ x 72′ 3″ x 11,540....	15	10, 000	.....do.....	18 May 20	Converted to floating crane, redesignated *Kearsarge* (AB–1) 5 August 1920. Renamed *Crane Ship No. 1*, 6 November 1941. Sold for scrapping 9 August 1955.

USS *Utah* (BB–31)

19N9145



Name	Keel laid	Commissioned	Complement		Armament; guns (smaller-caliber weapons are not itemized)	Tubes	Armor maximum thickness
			Officers	Men			
Kentucky (6)	30 Jun 96	15 May 00	40	514	do	do	do
Illinois (7)	10 Feb 97	16 Sep 01	40	496	(4) 13″/35, (14) 6″/40, (16) 6 pdr.	do	16.5″
Alabama (8)	2 Dec 96	16 Oct 00	40	496	(4) 13″/35, (15) 6″/40, (16) 6 pdr	do	do
Wisconsin (9)	9 Feb 97	4 Feb 01	35	496	(4) 13″/35, (14) 6″/40, (16) 6 pdr	do	do
Maine (10)	15 Feb 99	29 Dec 02	40	521	(4) 12″/40, (16) 6″/50, (6) 3″/50	(2) 18″	12″
Missouri (11)	7 Feb 00	1 Dec 03	40	521	do	do	do
Ohio (12)	22 Apr 99	4 Oct 04	40	521	do	do	do
Virginia (13)	21 May 02	7 May 06	40	772	(4) 12″/40, (8) 8″/45, (12) 6″/50, (12) 3″/50.	(4) 21″	do
Nebraska (14)	4 Jul 02	1 Jul 07	40	772	do	do	do
Georgia (15)	31 Aug 01	24 Sep 06	40	772	do	do	do
New Jersey (16)	2 Apr 02	12 May 06	40	772	do	do	do
Rhode Island (17)	1 May 02	19 Feb 06	40	772	do	do	do
Connecticnt (18)	10 Mar 03	29 Sep 06	42	785	(4) 12″/45, (8) 8″/45, (12) 7″/45, (20) 3″/50.	do	do
Louisiana (19)	7 Feb 03	2 Jun 06	42	785	do	do	do
Vermont (20)	21 May 04	4 Mar 07	42	838	do	do	do
Kansas (21)	10 Feb 04	18 Apr 07	42	838	do	do	do
Minnesota (22)	27 Oct 03	9 Mar 07	42	838	do	do	do
Mississippi (23)	12 May 04	1 Feb 08	34	710	(4) 12″/45, (8) 8″/45, (8) 7″/45, (12) 3″/50.	(2) 21″	do
Idaho (24)	12 May 04	1 Apr 08	34	710	do	do	do
New Hampshire (25)	1 May 05	19 Mar 08	41	809	(4) 12″/45, (8) 8″/45, (12) 7″/45, (20) 3″/50.	(4) 21″	do
South Carolina (26)	18 Dec 06	1 Mar 10	51	818	(8) 12″/45, (22) 3″/50	(2) 21″	do
Michigan (27)	17 Dec 06	4 Jan 10	51	818	do	do	do
Delaware (28)	11 Nov 07	4 Apr 10	55	878	(10) 12″/45, (14) 5″/51	do	do
North Dakota (29)	16 Dec 07	11 Apr 10	55	878	do	do	do
Florida (30)	9 Mar 09	15 Sep 11	60	941	(10) 12″/45, (16) 5″/51	do	do
Utah (31)	15 Sep 11	31 Aug 11	60	941	do	do	do
Wyoming (32)	9 Feb 10	25 Sep 12	58	1,005	(12) 12″/50, (21) 5″/51	do	do

Dimensions (L.o.a. x Ext. beam x displacement)	Designed speed	Designed horsepower	Engines	Last decommissioned	Disposal
.....do.....	15	10,000	.....do.....	29 May 20	Sold for scrapping 24 March 1923.
375'4" x 72' 3" x 11,565....	15	10,000	.....do.....	15 May 20	Demilitarized 14 February 1924. Turned over to New York Naval Militia. Name changed to *Praire State* 23 January 1941. Redesignated IX–15, 17 February 1941. Sold for scrapping 18 May 1956.
374' x 72'3" x 11,565.....	15	10,000	.....do.....	7 May 20	Transferred to War Department 15 September 1921; sunk as bombing target 27 September 1921; hulk sold for scrapping 19 March 1924.
373'10" x 72'3" x 11,653....	15	10,000	.....do.....	15 May 20	Sold for scraping, 26 January 1922.
393'11" x 72'3" x 12,846....	18	16,000	.....do.....	15 May 20	Sold for scrapping, 22 January 1922.
393'11" x 72'3" x 12,362....	18	16,000	.....do.....	8 Sep 19	Sold for scrapping, 26 January 1922.
393'10" x 72'3" x 12,723....	18	16,000	.....do.....	31 May 22	Sold for scrapping, 24 March 1923.
441'3" x 76'3" x 14,948.....	19	19,000	.....do.....	13 Aug 20	Struck 12 July 1922 for use as target by War Department. Sunk by bombing 5 September 1923.
.....do.....	19	19,000	.....do.....	2 July 20	Sold for scrapping, 30 November 1923.
.....do.....	19	19,000	.....do.....	15 July 20	Sold for scrapping, 1 November 1923.
.....do.....	19	19,000	.....do.....	6 Aug 20	Struck 12 July 1922 for use as target by War Department. Sunk by bombing 5 September 1922.
.....do.....	19	19,000	.....do.....	30 Jun 20	Sold for scrapping, 1 November 1923.
456'4" x 76'10" x 16,000....	18	16,500	.....do.....	1 Mar 23	.....do.....
.....do.....	18	16,500	.....do.....	20 Oct 20	.....do.....
.....do.....	18	16,500	.....do.....	30 Jun 20	Sold for scrapping, 30 November 1923.
.....do.....	18	16, 500	.....do.....	16 Dec 21	Sold for scrapping 2 January 1925.
.....do.....	18	16, 500	.....do.....	1 Dec 21	Sold for scrapping 2 January 1925.
382' x 77' x 13,000.....	17	10, 999	.....do.....	30 Jul 14	Sold to Greece 30 July 1914; served in Royal Hellenic Navy as coast defense ship *Kilkis;* sunk by air attack April 1941. Salvaged and scrapped.
.....do.....	17	10,000	.....do.....	30 Jul 14	Sold to Greece 30 July 1914; served in Royal Hellenic Navy as coast defense ship *Lemnos;* sunk by air attack April 1941. Salvaged and scrapped.
456'4" x 76'10" x 16,000....	18	16, 500	.....do.....	21 May 21	Sold for scrapping 1 November 1923.
452'9" x 80'3" x 16,000.....	18. 5	16, 500	.....do.....	15 Dec 21	Sold for scrapping 21 July 1924.
.....do.....	18. 5	16, 500	.....do.....	11 Feb 22	Sold for scrapping 2 January 1925.
518'9" x 85'3" x 20,380.....	21	25, 000	Turbines, direct drive.	10 Nov 23	Sold for scrapping 5 February 1924.
518'9" x 85'3" x 20,000.....	21	25, 000	.....do.....	22 Nov 23	Demilitarized 29 May 1924, used as radio controlled target ship. Sold for scrapping 16 March 1931.
521'6" x 88'3" x 21,825.....	20. 75	28, 000	.....do.....	16 Feb 31	Scrapped by Navy, 1931.
.....do.....	20. 75	28, 000	.....do.....	7 Dec 41 Sunk	Redesig. AG–16, 1 July 1931. Radio-controlled target and antiaircraft gunnery training ship. Sunk at Pearl Harbor, where her hulk still remains.
562' x 93'3" x 26,000.....	20. 5	28, 000	.....do.....	1 Jan 31 (As BB) 1 Aug 47 (As AG)	Demilitarized 1931, redesignated AG–17, 1 July 1931. Training ship; antiaircraft training ship during WWII. Sold for scrapping 30 October 1947.

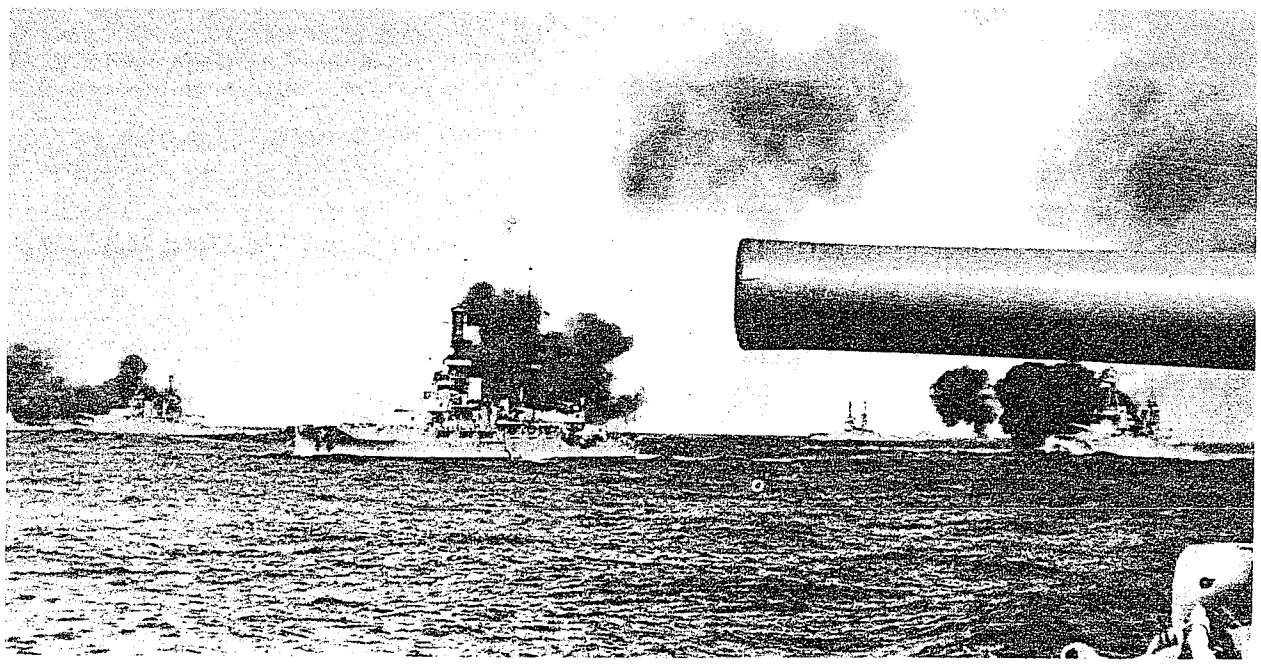
UNITED STATES BATTLESHIPS WHICH SAW

(Includes post-World War I building program can

Name hull number	Keel laid	Commissioned	Complement		Armament*	Torpedo tubes	Armor maximum thickness
			Officers	Men			
Arkansas (33)	25 Jan 10	17 Sep 12	58	1, 005	(12) 12″/50, (21) 5″/51	(2) 21″	12″
New York (34)	11 Sep 11	15 Apr 14	58	984	(10) 14″/45, (21) 5″/51	(4) 21″	14″
Texas (35)	17 Apr 11	12 Mar 14	58	994	do	do	do
Nevada (36)	4 Nov 12	11 Mar 16	55	809	(10) 14″/45, (21) 5″/51	(2) 21″	18″
Oklahoma (37)	26 Oct 12	2 May 16	55	809	do	do	20″
Pennsylvania (38)	27 Oct 13	12 Jan 16	55	860	(12) 14″/45, (22) 5″/51, (4) 3″/50 AA.	do	do
Arizona (39)	16 Mar 14	17 Oct 16	55	860	(12) 14″/45, (22) 5″/51	do	do
New Mexico (40)	14 Oct 15	20 May 18	58	1, 026	(12) 14″/50, (14) 5″/51	do	do
Mississippi (41)	5 Apr 15	18 Dec 17	55	1, 026	(12) 14″/50, (22) 5″/51, (2) 3″/50 AA.	do	do
Idaho (42)	20 Jan 15	24 Mar 19	55	1,026	(12) 14″/50, (14) 5″/51, (4) 3″/50 AA.	do	do
Tennessee (43)	14 May 17	3 Jan 20	57	1,026	(12) 14″/50, (14) 5″/51, (4) 3″/50 AA.	do	do
California (44)	25 Oct 16	10 Aug 21	57	1,026	do	do	do

Battle practice, 1927–28.

NH66281

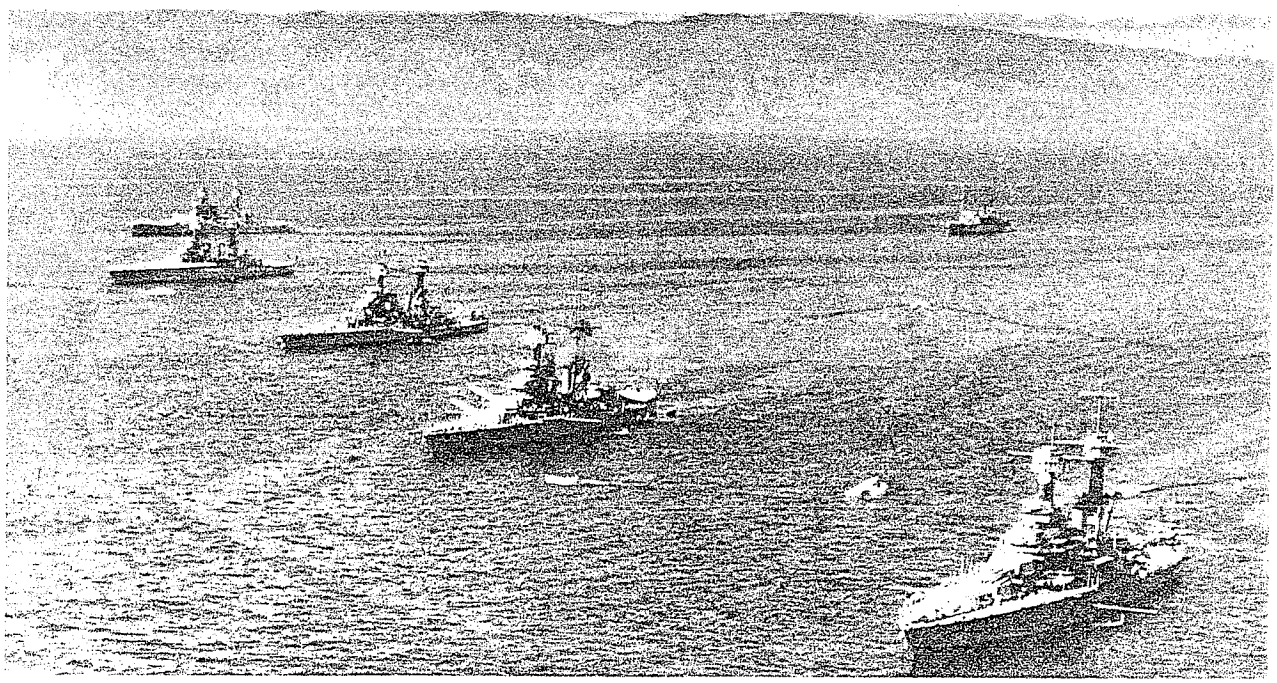


BATTLESHIPS
SERVICE IN WORLD WAR II

celed under Washington Naval Limitation Treaty)

Dimensions (L.o.a. x beam x displacement)	Design speed	Design horse power	Engines	Last decommissioned	Disposal
562′ x 93′3″ x 26,000.....	20. 5	28, 000	Turbines, direct drive.	25 Jul 46 Sunk	Sank as atomic test target ship at Bikini, 25 July 1946.
573′ x 95′3″ x 27,000.....	21	28, 100	Vertical, 3 expansion reciprocating.	29 Aug 46	Bikini target ship, July 1946. Sunk as gunnery target 8 July 1948.
.....do.....	21	28, 100	....do.....	21 Apr 48	Turned over to State of Texas, 21 April 1948. Preserved as memorial.
583′ x 95′3″ x 27,500.....	20. 5	26, 500	Geared turbines...	29 Aug 46	Bikini target ship, July 1946. Sunk as gunnery target, 31 July 1948.
....do.....	20. 5	24, 800	Vertical, 3 expansion reciprocating.	7 Dec 41 Sunk	Sold for scrapping, 5 December 1946. Sank at sea while under tow to West coast 17 May 1947.
608′ x 97′1″ x 31,400.....	21	31, 500	Geared turbines...	29 Aug 46	Bikini target ship, July 1946. Sunk by scuttling, 10 February 1948.
....do.....	21	34, 000	.....do.....	7 Dec 41 Sunk	Sunk at Pearl Harbor. Maintained as perpetual memorial to Navy war dead.
624′ x 97′5″ x 32,000.....	21	27, 500	Turboelectric.....	19 Jul 46	Sold for scrapping, 13 October 1946.
....do.....	21	32, 000	Geared turbines...	17 Sep 56	Redesignated experimental ship (AG–128), 15 February 1946. Sold for scrapping, 28 November 1956.
.....do.....	21	32, 000	....do.....	3 Jul 46	Sold for scrapping, 24 November 1947.
624′6″ x 97′4″ x 32,300.....	21	26,800	Turboelectric.....	14 Feb 47	Sold for scrapping, 10 July 1959.
....do.....	21	28,500	.....do.....	7 Aug 46	Sold for scrapping, 15 January 1959.

Battle Fleet, Maui, Hawaii, 1930's.



Name hull number	Keel laid	Commissioned	Complement		Armament*	Torpedo tubes	Armor maximum thickness
			Officers	Men			
Colorado (45)	29 May 19	30 Aug 23	58	1,022	(8) 16″/45, (12) 5″/51, (8) 3″/50 AA.	...do	...do
Maryland (46)	24 Apr 17	21 Jul 21	62	1,022	(8) 16″/45, (14) 5″/51, (4) 3″/50 AA.	...do	...do
Washington (47)	30 Jun 19	Never completed	66	1,341	(8) 16″/45, (20) 5″/51, (8) 3″/50 AA.	...do	...do
West Virginia (48)	12 Apr 20	1 Dec 23	62	1,022	(8) 16″/45, (12) 5″/51, (8) 3″/50 AA	...do	
South Dakota (49)**	15 Mar 20	Never completed	67	1,548	(12) 16″/50, (14) 6″/53, (8) 3″/50 AA.	...do	
Indiana (50)**	1 Nov 20	...do	67	1,548	.....do	.....do	
Montana (51)**	1 Sep 20	...do	67	1,471	.....do	.....do	
North Carolina (52)**	12 Jan 20	...do	67	1,471	.....do	.....do	
Iowa (53)**	17 May 20	...do	67	1,548	.....do	.....do	.....do
Massachusetts (54)**	4 Apr 21	...do	67	1, 548	.....do	.....do	
North Carolina (55)	27 Oct 37	9 Apr 41	108	1, 772	(9) 16″/45, (20) 5″/38, (4) 1.1 quad AA.		18″
Washington (56)	14 Jun 38	15 May 41	108	1, 772	.....do		.....do
South Dakota (57)	5 Jul 39	20 Mar 42	115	1, 678	(9) 16″/45, (16) 5″/38, (7) 1.1″ quad. AA		.....do
Indiana (58)	20 Nov 39	30 Apr 42	115	1, 678	(9) 16″/45, (20) 5″/38, (3) 1.1″ mm quad AA.		.....do
Massachusetts (59)	20 Jul 39	12 May 42	115	1, 678	.....do		.....do
Alabama (60)	1 Feb 40	16 Aug 42	115	1, 678	.....do		.....do
Iowa (61)	27 Jun 40	22 Feb 43	117	1, 804	(9) 16″/50, (20) 5″/38, (15) 40 mm quad AA.		17″
New Jersey (62)	16 Sep 40	23 May 43	117	1, 804	(9) 16″/50, (20) 5″/38, (16) 40 mm quad AA.		.....do
Missouri (63)	6 Jan 41	11 Jun 44	117	1, 804	(9) 16″/50, (20) 5″/38, (20) 40 mm quad AA.		.....do
Wisconsin (64)	25 Jan 41	16 Apr 44	117	1, 804	.....do		.....do
Illinois (65)	15 Jan 45	Never completed					.....do
Kentucky (66)	6 Dec 44	Never completed.					
Montana (67)**	Never laid down.				(12)16″/50, (20) 5″/54, (8) 40MM quad AA		
Ohio (68)**	.....do				.....do		
Maine (69)**	.....do				.....do		
New Hampshire (70)**	.....do				.....do		
Louisiana (71) **	.....do				.....do		

*Original armament listed. After WW I the 5″/25 AA gun was added to combat the growing air menace. This gave way in turn to the splendid 5″/38. Ships also carried AA machine guns smaller than the 1.1″ and 40 mm. The excellent 20 mm Oerlikon became standard in WW II and was mounted in large numbers.

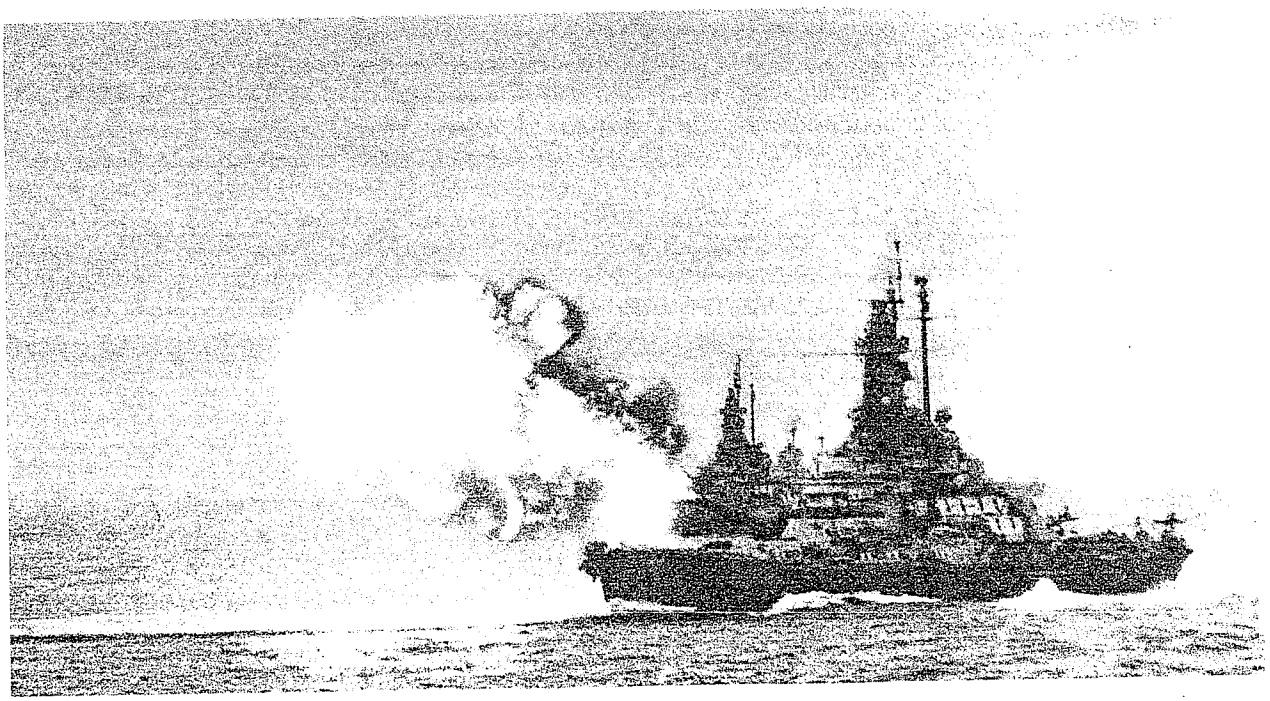
**Characteristics of uncompleted ships are given as designed.

Dimensions (L.o.a. x beam x displacement)	Design speed	Design horse power	Engines	Last decommissioned	Disposal
624'6" x 97'6" x 32,600	21	28,900	do	7 Jan 47	Sold for scrapping, 22 January 1959.
624' x 97'6" x 32,600	21	28,900	do	3 Apr 47	Sold for scrapping, 8 July 1959.
do	21	28,900	do		Construction canceled, 8 February 1922-75.9 percent complete. Sunk under Washington Treaty as gunnery target, 25 November 1924.
do	21	28,900	do	9 Jan 47	Sold for scrapping, 17 August 1958.
684' x 105' x 43,200	23	60,000	do		Construction canceled 8 February 1922, 38.5 percent complete. Sold for scrapping 25 October 1923.
do	23	60,000	do		Construction canceled 8 February 1922, 34.7 percent complete. Sold for scrapping 25 October 1923.
do	23	60,000	do		Construction canceled 8 February 1922, 27.6 percent complete. Sold for scrapping 25 October 1923.
do	23	60,000	do		Construction canceled 8 February 1922, 36.7 percent complete. Sold for scrapping 25 October 1923.
do	23	60,000	do		Construction canceled 8 February 1922, 11.0 percent complete, Sold for scrapping 8 November 1923.
do	23	60, 000	do		Construction canceled 8 February 1922, 11.0 percent complete. Sold for scrapping 8 November 1923.
728'9" x 108'4" x 35,000	27	121, 000	Geared turbines	27 Jun 47	Turned over to State of North Carolina, 6 September 1961. Preserved as memorial.
729' x 108' x 35,000	27	121, 000	do	27 Jun 47	Sold for scrapping, 24 May 1961.
680' x 108'2" x 35,000	27	130, 000	do	31 Jan 47	Sold for scrapping, 25 October 1962.
do	27	130, 000	do	11 Sep 46	Sold for scrapping, 6 September 1963.
680'10" x 108'2" x 35,000	27	130, 000	do	27 Mar 47	Turned over to Massachusetts Memorial Committee, Inc., 4 June 1965. Preserved as memorial.
680' x 108'2" x 35,000	27	130, 000	do	9 Jan 47	Turned over to State of Alabama 7 July 1964. Preserved as memorial.
887'3" x 108'2" x 45,000	33	212, 000	do	24 Feb 58	In Inactive Fleet.
887'7" x 108'1" x 45,000	33	212, 000	do		Do.
887'3" x 108'2" x 45,000	33	212, 000	do	26 Feb 55	Do.
887'3" x 108'3" x 45,000	33	212, 000	do	8 Mar 58	Do.
do	33	212, 000	do		Construction canceled 12 August 1945.
	33	212, 000	do		Construction suspended 17 February 1947, 73.0 percent complete.
		172, 000	do		Construction canceled 21 July 1943.
		172, 000	do		Do.
		172, 000	do		Do.
		172, 000	do		Do.
		172, 000	do		Do.

EMPLOYMENT OF BATTLESHIPS IN WORLD WAR II

Campaign	Fast battleships	Old battleships	Employment
	1942		
Atlantic	*Washington*	*Arkansas, New York, Texas*	Convoying.
Guadalcanal (August-December).	*North Carolina*		Protecting fast carriers. Battle of East. Solomons.
Guadalcanal (August-December).	*Washington*		Fast Carrier Task Force. Battle of Cape Esperance, and night battle of 14 November.
Guadalcanal (August-December).	*South Dakota*		Protecting fast carriers. Battles of Santa Cruz and night battle of 14 November.
North Africa (November).	*Massachusetts*	*Texas, New York*	Bombardment; *Massachusetts* helped put *Jean Bart* out of action.

Battleships bombarding Japanese Islands, 14 July 1945. 80G490145



Campaign	Fast battleships	Old battleships	Employment
		1943	
Atlantic		*Arkansas, Nevada, New York*	Convoy of troops and supplies.
Southern Solomons (February-June).	*Washington*		Protecting fast carriers.
Aleutians (April-December).		*Pennsylvania, Idaho, Nevada, Mississippi, New Mexico.*	Bombardment of Attu and Kiska.
Gilbert Islands (November-December).	*Massachusetts, North Carolina, Indiana.*	*Pennsylvania, Idaho, New Mexico, Mississippi, Indiana, Colorado, Tennessee.*	Bombardment of Makin, Tarawa, and Abemama.
		1944	
Truk Islands (February).	*New Jersey, North Carolina, Iowa, Massachusetts, South Dakota, Alabama.*		Sinking escaping Japanese ships.
Marshall Islands (January-February).	*Massachusetts, Indiana, Iowa, New Jersey, South Dakota, Alabama, North Carolina.*	*Idaho, Pennsylvania, New Mexico, Mississippi, Tennessee, Colorado, Maryland.*	Bombardment of Wotje, Kwajalein, Eniwetok, Roi-Namur, and Majuro.
Hollandia (March–August).	*Alabama, New Jersey, North Carolina.*	*Iowa, South Dakota, Massachusetts.*	Bombardment of Wakde-Sarmi, Aitape, Tanahmerah Bay, and Humboldt Bay.
Marianas Islands (June–August).	*Indiana, Iowa, North Carolina, New Jersey, South Dakota, Washington.*	*California, Colorado, Idaho, Maryland, New Mexico, Pennsylvania, Tennessee.*	Fire support and covering group for occupation of Saipan, Tinian, and Guam.
Normandy and Southern France (June–August).		*Arkansas, Nevada, Texas*	Bombardment and covering group.
Palau Islands (September–November).	*Indiana, Iowa, Massachusetts*	*Maryland, Pennsylvania, Tennessee*	Bombardment of Ulithi, Peleliu, Yap, Woleai, and Angaur.
Philippines (October 1944–June 1945).	*Alabama, Iowa, Massachusetts, New Jersey, North Carolina, South Dakota, Washington, Wisconsin.*	*California, Colorado, Maryland, Mississippi, New Mexico, Pennsylvania, Tennessee, West Virginia.*	Fast carrier support, bombardment and covering force.
		1945	
Iwo Jima (February–March).	*Indiana, Massachusetts, Missouri, New Jersey, North Carolina, South Dakota, Washington, Wisconsin.*	*Arkansas, Colorado, Idaho, Maryland, New Mexico, New York, Tennessee, Texas, Nevada, West Virginia.*	Fast carrier support, bombardment and covering force.
Okinawa (April–July).	*Indiana, Iowa, Massachusetts, Missouri, North Carolina, New Jersey, South Dakota, Washington, Wisconsin.*	*Arkansas, Colorado, Idaho, Maryland, New Mexico, New York, Tennessee, Texas, Nevada, West Virginia.*	Fast carrier support, bombardment and covering force.
Wake Island (August)		*Pennsylvania*	Bombardment.
3d Fleet in Japanese Waters (July–August).	*Alabama, Indiana, Iowa, Massachusetts, Missouri, North Carolina, South Dakota, Wisconsin.*	*Nevada, Tennessee*	Bombardment of Honshu, Hokkaido, Kyushu, and Kamaishi.
Surrender (September).	*Alabama, Indiana, Iowa, Missouri, North Carolina, South Dakota, Wisconsin.*	*Colorado, Idaho, Mississippi, New Mexico, West Virginia.*	Tokyo Bay, 2 September 1945.

SERVICE OF OLD BATTLESHIPS

Old battleships, Commissioned	1941	1942		1943	
	7 December	January–June	July–December	January–June	July–December
Arizona (BB–39) 17 October 1916.	Pearl Harbor.	Sunk at Pearl Harbor.			
Arkansas (BB–32) 7 September 1912.	Casco Bay, Maine.	Atlantic: Convoys...	Atlantic: Convoys...	Training; Atlantic Convoys.	Training; Atlantic: Convoys.
California (BB–44) 8 October 1921.	Pearl Harbor.	Sunk at Pearl Harbor: Salvaged.	Repairs, modernization.	Repairs, modernization.	Repairs, modernization.
Colorado (BB–45) 30 August 1923.	Puget Sound.	West coast: Patrol...	West coast: Patrol; South Pacific: Patrol.	South Pacific: Patrol.	South Pacific: Patrol; November–December: Tarawa.
Idaho (BB–42) 24 March 1919.	Iceland.....	West coast: Patrol...	Hawaiian area: Patrol; Overhaul.	Training; Aleutians, Patrol; May–June: Attu; June–August: Kiska.	Overhaul; Training; November–December: Makin.
Maryland (BB–46) 21 July 1921.	Pearl Harbor.	Repairs; Eastern Pacific: Patrol.	Eastern Pacific: Patrol; Southwest Pacific: Patrol.	Southwest Pacific: Patrol.	Southwest Pacific: Patrol; Overhaul; November–December: Tarawa; overhaul.
Mississippi (BB–41) 18 December 1917.	Iceland.....	West coast: Convoys, training.	West coast and Hawaii: Training; Southwest Pacific: Patrol.	Southwest Pacific: Patrol; May–June: Attu.	Overhaul; November. December: Makin.

USS *Mississippi* (BB–4) off Makin Island.

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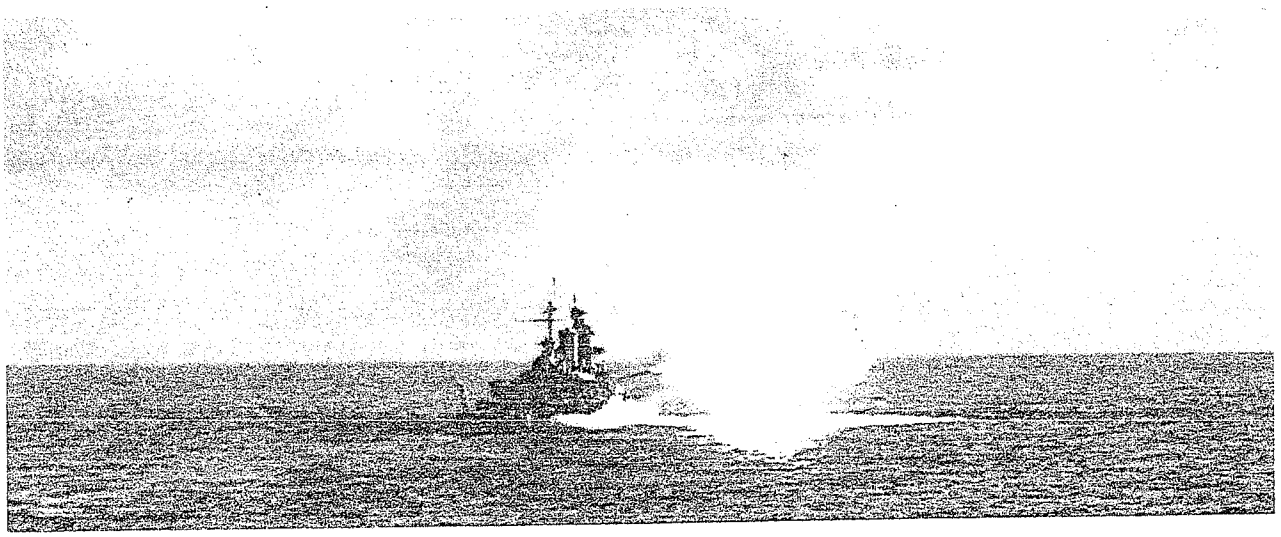
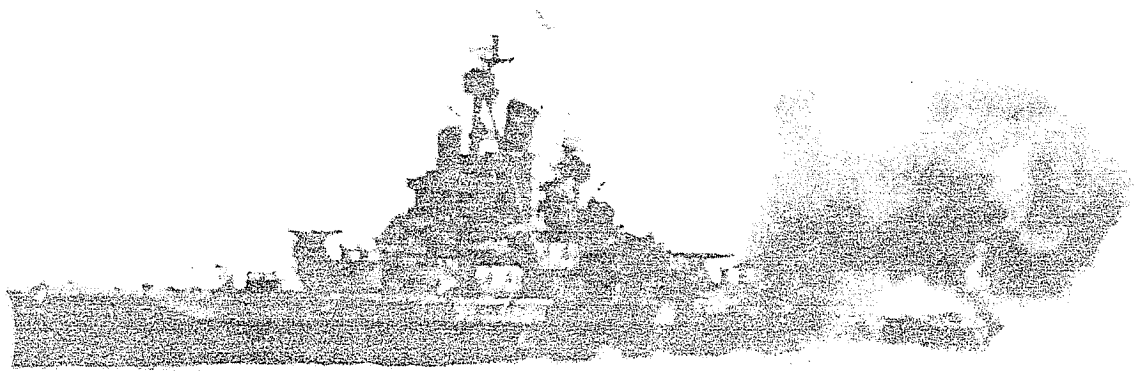


IN WORLD WAR II

1944		1945		Final disposition
January–June	July–December	January–June	July–December	
.....				Maintained as perpetual memorial to Navy war dead.
Atlantic: Convoys; June: Normandy; Cherbourg.	August: Southern France; Overhaul; Joins Pacific Fleet.	February–March: Iwo Jima; March–May: Okinawa.	Magic carpet.....	25 July 1946: Sunk as target, Bikini.
Repairs, modernization; June: Saipan.	July–August: Tinian; August: Guam; Overhaul; October: Battle of Surigao Strait; November: Leyte.	January: Lingayen Gulf; Repairs; June: Okinawa.	July: Okinawa; July–August: 3d Fleet; Japan: Occupation.	7 August 1946: Decommissioned; 1 March 1959: Struck; 15 June 1959: Scrapped.
January–February: Kwajalein; February: Eniwetok; June: Saipan.	July: Guam, Tinian; October: Marcus; Bombardment; November: Leyte; December: Mindoro.	January: Lingayen Gulf; March–May: Okinawa.	2 September: Tokyo Bay; Japan: Occupation; Magic carpet.	7 January 1947: Decommissioned; 1 March 1959: Struck; 22 June 1959: Scrapped.
January–February: Kwajelein-Majuro; Training; June–July: Saipan.	July: Guam; Repairs; September–October: Southern Palaus; Overhaul.	Training; February–March: Iwo Jima; March–June: Okinawa.	Training; 2 September: Tokyo Bay; Japan: Occupation.	3 July 1946: Decommissioned; 16 September 1947: Struck; 21 November 1947: Scrapped.
January–February: Kwajalein-Majuro; Overhaul June: Saipan.	July–August: Saipan; September–October: Southern Palaus; October–November: Leyte; 25 October: Battle of Surigao Strait; Repairs.	Repairs; March–June: Okinawa; Overhaul.	Magic carpet.....	3 April 1947: Decommissioned; 1 March 1959: Struck; 7 August 1959: Scrapped.
January–February: Kwajelein-Majuro; Kavieng: Bombardment; Overhaul.	September–October: Southern Palaus; October–November: Leyte; 25 October: Battle of Surigao Strait; December: Mindoro.	January: Lingayen Gulf; Repairs; May–June: Okinawa; Overhaul; Training.	2 September: Tokyo Bay; Japan: Occupation.	15 February 1946: Experimental ship (AG–128); 17 September 1956: Decommissioned; 30 July 1956: Struck; 28 November 1956: Scrapped.

USS *Nevada* (BB–36), Normandy invasion, 6 June 1944.

80G231647



Old battleships, Commissioned	1941	1942		1943	
	7 December	January–June	July–December	January–June	July–December
Nevada (BB–36) 11 March 1916.	Pearl Harbor.	Hit, beached at Pearl Harbor: Salvaged, repaired.	Repairs, modernization.	Repairs, modernization; May–June: Attu.	Overhaul; Atlantic: Convoys.
New Mexico (BB–40) 20 May 1918.	Casco Bay, Maine.	West coast: Patrol...	Hawaii and Southwest Pacific: Training, patrol, and convoys.	Southwest Pacific: Patrol; May–June: Attu.	Aleutians: Patrol; Overhaul; November–December: Makin.
New York (BB–34)..... 15 April 1914.	Norfolk.....	Atlantic: Convoys....	Atlantic: Convoys; November: North Africa; Atlantic: Convoys.	Atlantic: Convoys....	Gunnery trainingship; Chesapeake Bay.
Oklahoma (BB–37) ..... 2 May 1916.	Pearl Harbor.	Sunk at Pearl Harbor.	.....	Under salvage.....	Under salvage.....
Pennsylvania (BB–38) .. 12 June 1916.	Pearl Harbor.	Repairs; West coast: Patrol.	West coast: Patrol; Hawaii area: Patrol; Overhaul.	Overhaul; West Coast: Patrol; May: Attu; Repairs.	Repairs; August: Kiska; Hawaii area: Training; November: Makin.
Tennessee (BB–43) ..... 3 June 1920.	Pearl Harbor.	Repairs; West coast: Patrol.	West coast: Patrol; Hawaii area: Patrol; Overhaul.	Overhaul; Aleutians: Patrol.	Aleutians: Parol; August: Kiska; November–December: Tarawa.
Texas (BB–35) ..... 12 March 1914.	Casco Bay, Maine.	North Atlantic: Patrol; Repairs; Atlantic: Convoys.	Atlantic: Convoys; November: North Africa.	Atlantic: Convoys....	Atlantic: Convoys....
West Virginia (BB–48). 1 December 1923.	Pearl Harbor.	Sunk at Pearl Harbor: Salvaged.	Repairs.....	Repairs, modernization.	Modernization.....
Wyoming (AG–17, ex BB–32). 25 September 1912. Training ship 1931.	Off Newport.	Gunnery training ship in Atlantic. She fired nearly 2 million rounds of ammunition, trained some 35,000 antiaircraft gunners between November 1941 and June 1945.	.....		

1944		1945		Final disposition
January–June	July–December	January–June	July–December	
Atlantic: Convoys; June: Normandy; Cherbourg.	August–September: Southern France; Overhaul.	Overhaul; February–March: Iwo Jima; March–June: Okinawa.	July–August: 3d Fleet; Japan: Occupation.	June–July1946: Target, Bikini; 31 July 1948: Sunk as gunnery target.
January–February: Kwajelein-Majuro; March: Kavieng, Bombardment; Training.	June: Saipan; July: Guam; Overhaul; Leyte Area: Patrol; December: Mindoro.	January: Lingayen Gulf; March–May: Okinawa; Repairs.	Repairs; 2 September: Tokyo Bay; Magic carpet.	19 July 1946: Decommissioned; 25 February 1947: Struck; 13 October 1947: Scrapped.
Gunnery Training Ship; Chesapeake Bay; Midshipman training.	Midshipman training; West Coast; Bombardment training.	February: Iwo Jima; March–June: Okinawa.	Overhaul; Magic carpet.	July 1946: Bikini; Target; 29 August 1946: Decommissioned; 8 July 1948: Sunk as gunnery target.
Under salvage.....	1 September: Decommissioned.	.....		5 December 1946: Sold for scrapping; 17 May 1947: Sank at sea under tow to West Coast.
January–February: Kwajalein-Majuro; February: Eniwetok; Southwest Pacific: Patrol and training; June: Saipan.	July–August: Guam; September–October: Southern Palaus; October–November: Leyte; 25 October: Battle of Surigao Strait.	January: Lingayen Gulf; Overhaul.	West Coast: Training; August: Wake Island; August: Okinawa, hit by aerial torpedo; Repairs.	July 1946: Bikini: Target; 29 August 1946: Decommissioned; 10 February 1948: Sunk as gunnery target.
January: Kwajalein-Majuro; February–March: Eniwetok; March: Kavieng.	June–August: Saipan; July–August: Tinian, Guam; September–October: Southern Palaus; October–November: Leyte; 25 October: Battle of Surigao Strait; Overhaul.	February–March: Iwo Jima; March–May: Okinawa; Leyte: Training.	July–August: 3d Fleet; Japan: Occupation.	14 February 1947: Decommissioned; 1 March 1959: Struck; 10 July 1959: Scrapped.
Atlantic: Convoys; June: Normandy.	August–September: Southern France; Overhaul.	February–March: Iwo Jima; March–May: Okinawa; Leyte: Training.	Leyte: Training; Magic carpet.	21 April 1948: Decommissioned, preserved by State of Texas as memorial.
Modernization.....	West Coast: Training; October–November: Leyte; 25 October: Battle of Surigao Strait; December: Mindoro.	January: Lingayen Gulf; February–March: Iwo Jima; March–January: Okinawa.	2 September: Tokyo Bay; Japan: Occupation; Magic carpet.	9 January 1947: Decommissioned; 1 March 1959: Struck; 17 August 1958: Scrapped.
.....				Antiaircraft warfare development: 1 August 1947: Decommissioned; Scrapped.

SERVICE OF FAST BATTLESHIPS

Fast battleships, Commissioned	1941 7 December	1942		1943	
		January–June	July–December	January–June	July–December
North Carolina (BB–55). 9 April 1941.	Atlantic Fleet.	East coast: Training; West coast: Training.	August: Guadalcanal-Tulagi; 23–25 August: Battle of Eastern Solomons; Repairs; Solomons area: Operations.	Solomons area: Overhaul; Southwest Pacific: Patrol.	Southwest Pacific: Patrol; November–December: Gilbert Islands; December: Kavieng attack.
Washington (BB–56).... 15 May 1944.	Atlantic Fleet.	East coast: Operations; Scapa flow: Operations; March–June: Russian Convoys.	July: Russian convoys; Overhaul; August–December Guadalcanal; 12–15 November: Battle of Guadalcanal.	January–February: Guadalcanal; February–June: Southern Solomons; Overhaul.	Southwest Pacific: Patrol; November–December: Gilbert Islands.

USS *North Carolina* (BB–55), April 1942.

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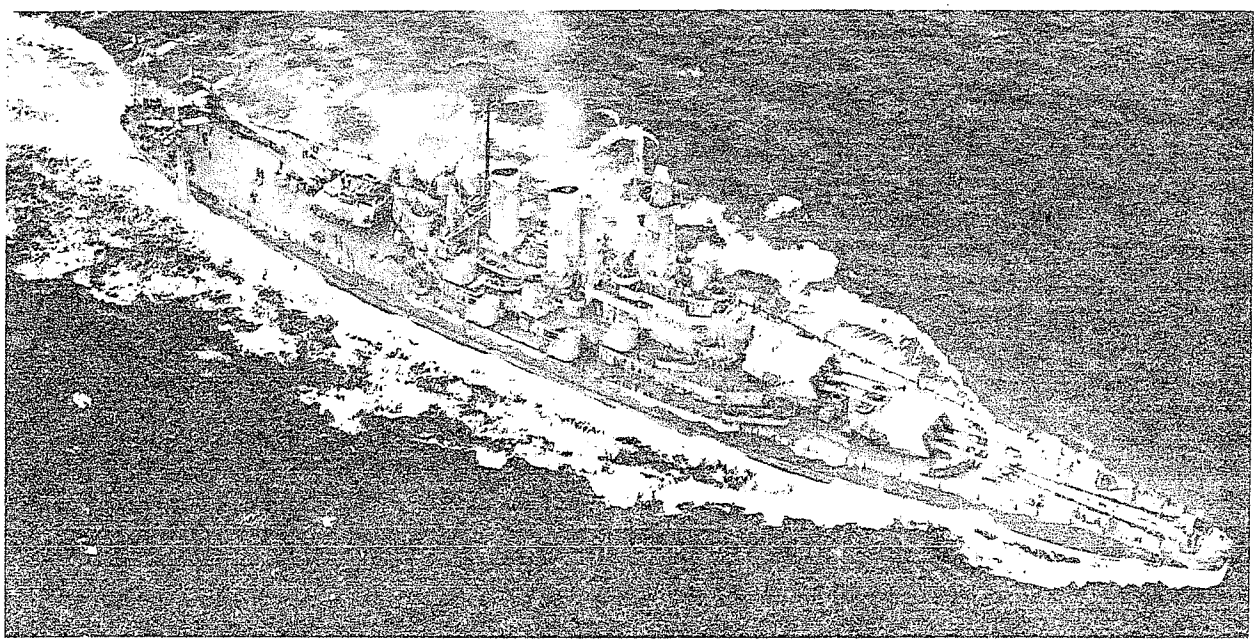

IN WORLD WAR II

1944		1945		Final disposition
January–June	July–December	January–June	July–December	
January: Kavieng attack; January–February: Kwajalein-Majuro; February: Truk, Marianas; March–April: Palaus, Yap, Ulithi; Wolesi raids; April: Hollandia; April–May: Truk, Satawan, Ponape; June: Saipan; 19–20 June: Battle of Philippine Sea.	Overhaul; November–December: Leyte: Operations.	January: Luzon, Formosa, China coast, Nansei Shoto attacks; February–March: Iwo Jima; Honshu, Nansei Shoto raids; March–April: Okinawa support.	July–August: 3d Fleet raids; 2 September: Tokyo Bay; Japan: Occupation.	27 June 1947: Decommissioned; 1 June 1960: Struck; Preserved as a memorial by State of North Carolina.
January: Kavieng attack; January–February: Kwajalein-Majuro; Repairs; June: Marianas; 19–20 June: Battle of Philippine Sea.	July–August: Marianas; August–October: Southern Palaus; August–September: Philippines attack; October–December: Leyte: Operations.	January: Formosa, Luzon, China coast, Nansei Shoto attacks; February: Iwo Jima; February–March: Honshu, Nansei Shoto raids; March–April: Okinawa; Overhaul.	Overhaul; Magic Carpet.	27 June 1947: Decommissioned; 1 June 1960: Struck; 24 May 1961: Scrapped.

USS *Indiana* (BB–58), 24 Jan. 1944.

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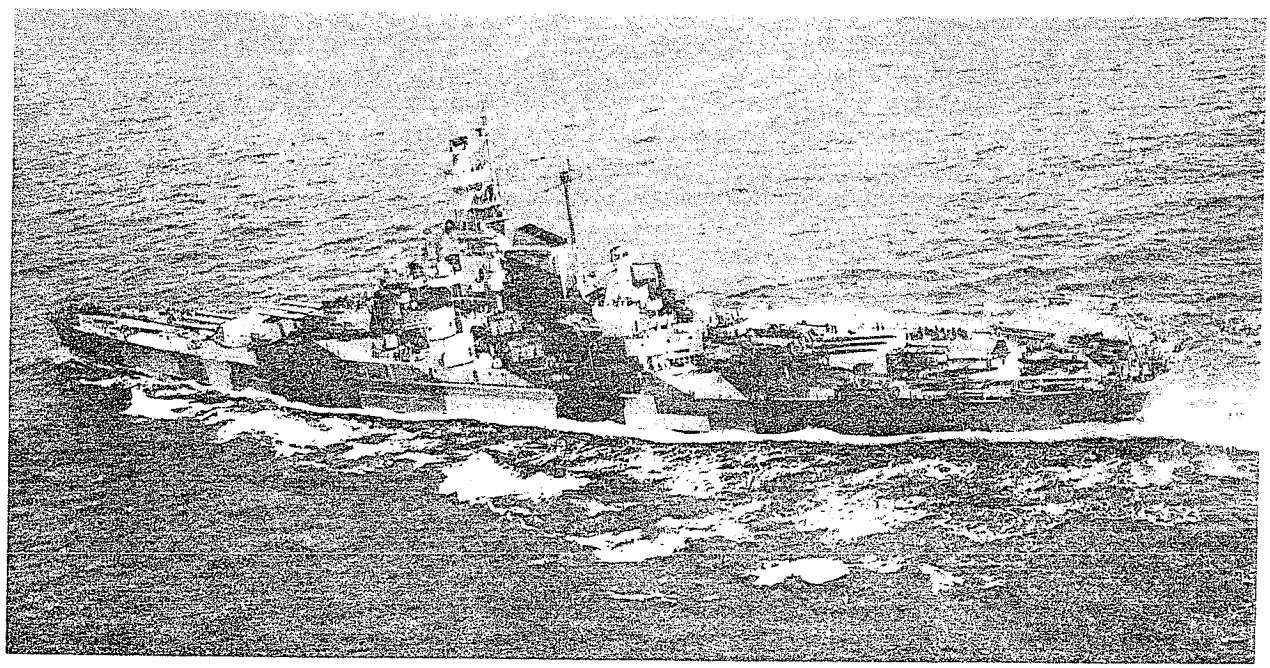

Fast battleships, Commissioned	1941 7 December	1942		1943	
		January–June	July–December	January–June	July–December
South Dakota (BB–57)	Building	20 March: Commissioned; Shakedown.	Shakedown; 26 October: Battle of Santa Cruz; 12–15 November: Battle of Guadalcanal; Repairs.	Repairs; North Atlantic: Operations.	North Atlantic: Operations; November–December: Gilbert Islands.
Indiana (BB–58)	Building	30 April: Commissioned; Shakedown.	Shakedown; Southwest Pacific: Operations.	Southwest Pacific: Operations.	Southwest Pacific: Patrol; August: Marcus Island attack; November–December: Gilbert Islands.
Massachusetts (BB–59)	Building	12 May: Commissioned; Shakedown.	Shakedown; November: North Africa; Overhaul.	Overhaul; Southwest Pacific: Operations.	Southwest Pacific: Operations; November–December: Gilbert Islands.
Alabama (BB–60)	Building	Building	16 August: Commissioned; Shakedown.	Shakedown; North Atlantic: Patrol.	North Atlantic: Patrol; Southwest Pacific: Operations; November–December: Gilbert Islands.
Iowa (BB–61)	Building	Building	Building	22 February: Commissioned; Shakedown.	North Atlantic: Patrol; Carries President Roosevelt on transocean leg of journey to Teheran Conference and return.

1944		1945		Final disposition
January–June	July–December	January–June	July–December	
January–February: Kwajalein-Majuro; February: Truk, Marianas; March–April: Palaus, Yap, Ulithi, Woleai raids; April–May: Truk, Satawan, Ponape; April–June: Hollandia; June: Saipan; 19–20 June: Battle of Philippine Sea.	July–August: Saipan; September: Philippines attack; October: Okinawa, North Luzon, Formosa; December: Ormoc Bay: Landings; Mindanao.	January: China coast, Nansei Shoto attacks; February–March: Iwo Jima, Honshu, Nansei Shoto attacks; March–June: 5th and 3d Fleet raids.	July–August: 3d Fleet; 2 September: Tokyo Bay; Magic Carpet.	31 January 1947: Decommissioned; 1 June 1962: Struck; 25 October 1962: Scrapped.
January–February: Kwajalein-Majuro; Repairs; April–May: Truk, Satawan, Ponape; June: Marianas; 19–20 June: Battle of Philippine Sea.	July–August: Marianas; July: Palaus, Yap, Ulithi; September: Philippines attack; September–October: Southern Palaus; Overhaul.	Overhaul; February–March: Iwo Jima, Honshu, Nansei Shoto attacks; March–June: 5th and 3d Fleet raids.	July–August: 3d Fleet; 2 September: Tokyo Bay.	11 September 1946: Decommissioned; 1 June 1962: Struck; 9 June 1963: Scrapped.
January–February: Kwajalein-Majuro; February: Truk, Marianas attack; March–April: Palaus, Yap, Ulithi, Woleai raids; April: Hollandia; April–May: Truk, Satawan, Ponape raids; Overhaul.	Overhaul; September–October: Southern Palaus; October: Okinawa attack; October–December: Luzon attacks; 25–26 October: Battle of Cape Engano; October: Visayas attack; October: Luzon, Formosa attack.	January: Formosa, Luzon, China coast, Nansei Shoto attacks; February–March: Iwo Jima; February–March: Honshu, Nansei Shoto attacks; March–June: 5th and 3d Fleet raids.	July–August: 3d Fleet.	27 March 1947: Decommissioned; 1 June 1962: Struck; Preserved as a memorial by State of Massachusetts.
January–February: Kwajalein-Majuro; February: Truk, Marianas attack; March–April: Palaus, Yap, Ulithi, Woleai raids; April: Hollandia; June: Saipan; 19–20 June: Battle of Philippine Sea.	July–August: Guam; July: Palaus, Yap Ulithi raids; August–September: Volcano-Bonin and Yap raids; September–October: Southern Palaus; September: Phillippines attack; October: Okinawa, Luzon, Formosa, Visayas attacks; 25–26 October: Battle of Leyte Gulf; November–December: Luzon attacks.	Overhaul; May–June: 3d and 5th Fleet raids.	July–August: 3d Fleet; 2 September: Tokyo Bay; Magic Carpet.	9 January 1947: Decommissioned; 1 June 1962: Struck; Preserved as a memorial by State of Alabama.
January–February: Kwajelein-Majuro; February: Truk Marianas attack; March–April: Mille, Palaus, Yap, Ulithi, Woleai raids; April: Hollandia; April–May: Truk, Satawan, Ponape raids; June: Saipan; 19–20 June: Battle of Philippine Sea.	July–August: Guam, Tinian; July: Palaus, Yap, Ulithi raids; September: Philippines attack; September–October: Southern Palaus; October: Okinawa, Luzon, Formosa attacks; October–December: Luzon, Visayas attack.	Overhaul; April–June: Okinawa support.	July–August: 3d Fleet; 2 September: Tokyo Bay.	24 March 1949: Decommissioned; 24 August 1951: Recommissioned, Korea; 24 February 1958: Decommissioned; Now in inactive fleet.

Fast battleships, Commissioned	1941	1942		1943	
	7 December	January–June	July–December	January–June	July–December
New Jersey (BB–62)	Building	Building	Building	23 May: Commissioned; Shakedown.	Shakedown
Wisconsin (BB–64)	Building	Building	Building	Building	Building
Missouri (BB–63)	Building	Building	Building	Building	Building

USS *Iowa* (BB–61) during World War II.

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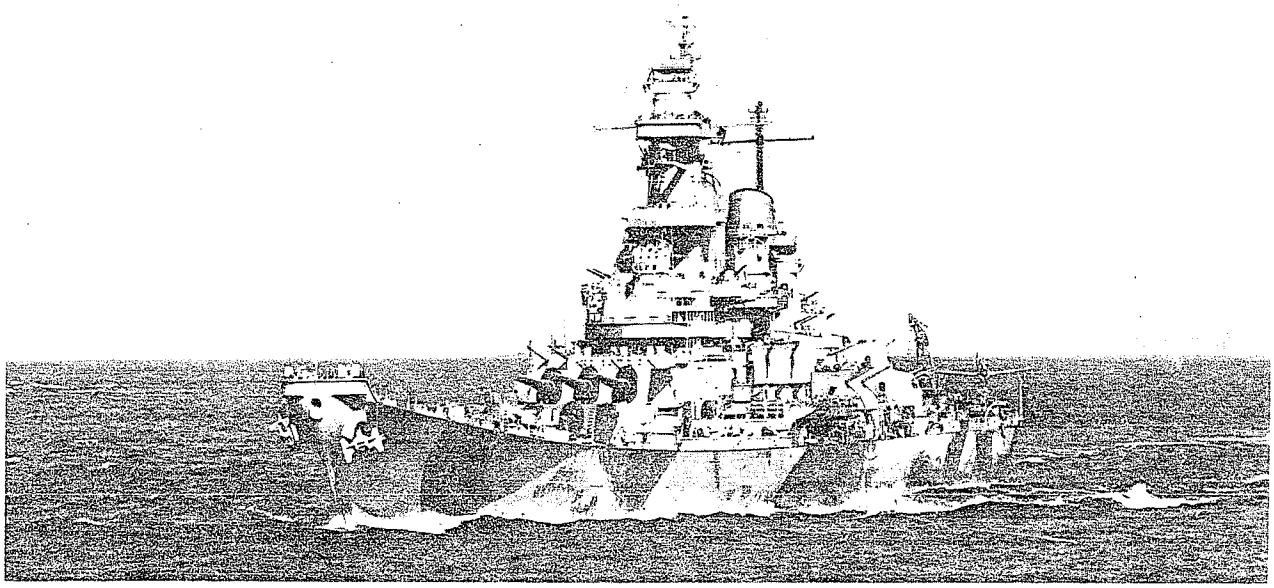

Chronology

Ships-of-the-Line and Battleships in U.S. History

13 October 1775	Congress authorizes two small warships—the birthday of today's U.S. Navy.
4 July 1776	Colonies declare independence with only 17 small ships to oppose Royal Navy, the "Ruler of the Seas."
5–9 September 1781	Washington's maritime strategy springs the trap on Cornwallis at Yorktown when French Admiral de Grasse defeats British Fleet under Admiral Graves, off the Chesapeake Capes. France gains local control of the sea with a strong fleet of ships of the line. Shut off from the sea Cornwallis soon surrenders; the Revolution is won.
2 September 1782	Sailing battleship *America,* first ship-of-the-line built by the Continental Navy, given to France to replace that country's *Magnifique,* lost by grounding in Boston harbor.
16 June 1812	War begins, brought on by infringement of American rights at sea. The small U.S. Navy won some brilliant individual ship and lake squadron victories, but without ships-of-the-line could not seriously contest the oceans.
2 January 1813	Congress authorizes 4 ships-of-the-line; ultimately authorizations rise to 17.
1814	Robert Fulton builds *Demologos,* named *Fulton* by Navy. Mounting 32-pounders, this first steam-powered warship was almost as large as the ship-of-the-line. Though ahead of her time *Fulton* was omen of the future.
3 July 1815	*Independence* sails as USN's first ship of the line, having launched 22 June 1814.
31 July 1815	U.S.S. *Independence,* first ship-of-the-line to sail under the Stars and Stripes, passes through the Straits of Gibraltar and joins the Mediterranean Squadron, forerunner of today's mighty 6th Fleet.
7 January 1822	Commodore Charles Stuart rounds Cape Horn in ship-of-the-line *Franklin,* this majestic three-decker supports U.S. diplomatic negotiations for free world trade.
1825	Commodore John Rodgers sails ship-of-the-line *North Carolina* to the Mediterranean to negotiate a treaty with Turkey. Her impressive power facilitated negotiations.
7 September 1843	U.S.S. *Princeton,* joint effort of Commodore Stockton and John Ericsson, launched. The most advanced ship of her day, she incorporated such innovations as telescopic funnels, the ability to burn anthracite coal, the use of blowers to force the draft into the furnaces, and the coupling of the screw directly to the engine.
1845	Ship of the line *Columbus* visits Far East ports in China and Japan showing the American flag.
March 1854	Commodore Matthew Perry opens Japan to the Western World. Veteran steam frigate *Mississippi* leads impressive array of seapower. The steam frigate began the transition from ship-of-the-line to the battleship.
9 March 1862	Historic battle of the ironclads in Hampton Roads. Confederate *Virginia* (ex-*Merrimack*) and *Union Monitor,* inaugurate a far-reaching revolution in sea warfare. The oustanding characteristics of these vessels evolve into the 20th century battleship.

1868	U.S.S. *Wampanoag,* designed by Chief Engineer Benjamin Franklin Isherwood of the Navy's Bureau of Steam Engineering, achieves a speed in excess of 17 knots with a simple horizontal engine.
1871	Double expansion engine designed for warship propulsion; it is followed in a few years by the triple expansion engine that will propel the nation's first battleships.
1880	Coninuing progress in gun manufacture begun before Civil War; the U.S. Navy manufactures the first hooped, or built-up, high-powered rifled gun. The 6-inch breech-loader firing a 70-pound projectile demonstrates marked increase in accuracy and range over the old smooth-bore muzzle-loaders.
1883	Funds appropriated to construct four steel warships. Named *Atlanta, Boston, Chicago,* and *Dolphin* and known as the "White Squadron," these ships form the nucleus of the new Navy.
1890–1892	*Maine* (18 Nov. 1890), and *Texas* (28 June 1892) launch. Rated as second-class battleships, they displace 6,000 tons and wear an armor belt 12-inches thick. *Maine* is blown up in Havana harbor in 1898 while on a peaceful visit. Her destruction precipitates war.
28 February 1893	U.S.S. *Indiana* (BB–1), the Navy's first true battleship launches. Mounting four 13-inch guns she displaces more than 10,000 tons. Sister ships *Massachusetts* and *Oregon* follow down the ways the next year.
21 April 1898	Spanish-American War begins. 1 May, Commodore George Dewey wins Battle of Manila Bay. On 3 July, Rear Adm. William T. Sampson's fleet with battleships *Massachusetts* (BB–2), *Oregon* (BB–3), *Iowa* (BB–4), and *Texas,* wins Battle of Santiago. These naval victories make the United States a world power.
1902	United States intervenes with Monroe Doctrine when Germany threatens to occupy Venezuelan custom stations. Theodore Roosevelt says "Dewey was the greatest provocative of peace."
December 1907	The "Great White Fleet" of 16 U.S. Navy battleships starts world cruise, completing it in 1909. Battleships *Connecticut* and *Illinois,* carrying on a long tradition of the mission of mercy, while participating in this world cruise, rush food and medical supplies to the people of Messina, Sicily, who had suffered from one of the worst earthquakes in history.
1908	The first turbine-driven battleship H.M.S. *Dreadnought* commissions. In Dec. 1907 the U.S. Navy had laid down turbine-driven *North Dakota.*
11 July 1908	*South Carolina* launches. She and U.S.S. *Michigan* are the first American all-big-gun battleships and the first dreadnoughts to have two super firing big-gun turrets.
1913	Seven battleships of the U.S. Fleet operate off Vera Cruz to protect American interests there during a period of serious political instability.
1917–1918	A division of six battleships of the U.S. Navy supports the British Fleet in the North Sea during World War I. The battleships help to check the German Fleet, escort convoys and protect minelaying operations.
1921	Washington Naval Conference on naval limitations establishes international ratios for capital ships. U.S. Navy halts construction on seven battleships and scraps several others in commission.
20 March 1922	*Langley* (CV–1), first U.S. aircraft carrier commissions. Converted battle cruisers *Saratoga* and *Lexington* follow in 1927. These begin the shift from battleship to aircraft carrier as the "champion of the seas," though the two will long complement each other.

1 December 1923	U.S.S. *West Virginia* commissions, last battleship to be built by the United States until World War II.
1931	Japan begins drive into Manchuria, causing serious tensions between Tokyo and Washington. The Manchurian crisis is one of several serious events that lead to Pearl Harbor.
1933–1940	President Roosevelt, knowing the dominant role that seapower must play in America's destiny, against opposition, effects some modernization of the U.S. Fleet. Four aircraft carriers launched in addition to some cruisers, destroyers, and submarines; but no battleships.
1 September 1939	World War II erupts. By this time the United States has begun to build new battleships for the large crises ahead.
9 April 1941	The mighty *North Carolina* commissions. Namesake of Commodore Rodger's famous ship-of-the-line, she carries nine 16-inch guns and displaces 35,000 tons. Her sister ship *Washington* commissions the following month.
7 December 1941	Japanese carrier-based aircraft sneak-attack on Pearl Harbor. *Arizona* blows up; *Oklahoma* capsizes; six other old battleships receive varying damage; when repaired and modernized they steamed into action more effective than before. After this peacetime, sitting duck attack no American battleship is sunk throughout a bitterly fought two-ocean war.
November 1942	The new *Massachusetts* and pre-World War I battleships *Texas* and *New York* bring big gun power to the huge invasion force that strikes at beachheads in North Africa. Within 6 months the German cause in Africa is lost.
4–6 June 1942	The Battle of Midway avenges Pearl Harbor. The Japanese trade four fleet carriers and one cruiser for *Yorktown* and one destroyer. Japanese invasion of Midway is halted.
8 August 1942	Guadalcanal landing. The U.S. Navy begins the resistless amphibious assaults that inexorably closed on Japan. Battleships *North Carolina, South Dakota,* and *Washington* protect aircraft carriers and engage in naval actions with Japanese warships during long, intense struggle for Guadalcanal.
24 August 1942	Battle of Eastern Solomons. *North Carolina*'s excellent antiaircraft fire helps save *Enterprise.*
26–27 October 1942	Battle of Santa Cruz. *South Dakota* plays large role in saving *Enterprise* in carrier battle. *Hornet* without battleship escort is lost.
12–13 November 1942	Naval Battle of Guadalcanal. In violent night action *Washington* and *South Dakota* help turn back major attack. The Japanese lose two battleships.
20 November 1943	Makin and Tarawa landings. The 5th Fleet under Vice Adm. Raymond A. Spruance includes eight old battleships in the assault forces and five new ones in the carrier task forces.
31 January 1944	Kwajalein assault begins behind the awesome power of the carrier task forces and new and old battleships. The latter pulverize enemy defenses ashore.
17 February 1944	Eniwetok assault. Striking swiftly northwestward over 350 miles from Kwajalein Island the 5th Fleet with old battleships in bombardment line catches the Japanese off balance before they can build up defenses.
6 June 1944	Normandy invasion begins. Battleships *Arkansas, Nevada,* and *Texas* bombard French coast, smashing German shore batteries, breaching defenses, and reaching inland to shatter railroads, convoys, and enemy troop concentrations.

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15 August 1944	The same three battleships steam into the Mediterranean to join the invasion of Southern France. Their pinpoint accuracy of fire destroys numerous enemy positions.
20 October 1944	Invasion of Leyte begins recovery of the Philippines under heavy gunfire from supporting old battleships *California, Maryland, Mississippi, Pennsylvania, Tennessee,* and *West Virginia.* The Japanese try desperately to halt the Philippine invasions, but their losses are heavy, including super-battleship *Musashi,* mounting 18.1-inch guns, heaviest afloat.
25 October 1944	Battle of Surigao Strait takes place with battleships *California, Maryland, Mississippi, Pennsylvania, Tennessee,* and *West Virginia,* bombarding and covering.
9 January 1945	Attacking far up the Philippines, old battleships support landings in Lingayen Gulf.
19 February 1945	Assault begins on Iwo Jima with powerful gunfire support including 10 old battleships. "Uncommon valor was a common virtue."
7 April 1945	Some 1,500 warships take part in assault on Okinawa—the doorstep to Japan. These include the fast task forces with nine new battleships that at times divert to bombard, and 10 old battleships in an amphibious force fire support.
8 May 1945	V–E Day ends war in Europe in which seapower built around carriers and battleships played a controlling role.
14 July 1945	*South Dakota, Indiana,* and *Massachusetts* close Japan's home islands and bombard the ironworks of Kamaishi.
6 August 1945	Atomic bomb dropped on Hiroshima, and another on Nagasaki 3 days later.
14 August 1945	Japan surrenders. The atomic bombs precipitate the inevitable collapse that followed the destruction of Japan's Navy and Allied control of the sea.
2 September 1945	Japan signs the instruments of unconditional surrender on board *Missouri,* namesake of President Harry S. Truman's home state.
1946	Battleship *Missouri* steams to Turkey with the remains of the late Ambassador Ertegun. She then proceeds to Piraeus, Greece and later to other Mediterranean ports, silently warning the Soviets that American naval power is ready to defend the free countries of the Mediterranean.
21 April 1948	Battleship *Texas* enshrined at Houston. Other old battleships having valiantly served beyond the normal span decommission and begin to scrap.
25 June 1950	Communist North Koreans invade the Free Republic to the south, thus starting the Korean War. *Missouri* arrives off Korean waters in mid-September and is later joined by *Iowa, New Jersey,* and *Wisconsin.* These battleships use their big guns to bombard enemy installations and troop concentration until peace comes to Korea.
8 March 1958	*Wisconsin,* last active U.S. battleship decommissions.
15 September 1959	*Maryland,* last of the old battleships sold for scrap.
1961	*North Carolina* enshrined at Wilmington, N.C., to be followed by *Alabama* at Mobile and *Massachusetts* at Fall River, all impressive memorials to dedicated service, great achievement, and valor at sea.
6 April 1968	*New Jersey* recommissions to lend her great striking power to the American military effort in Vietnam. A Marine lance corporal in Vietnam wrote, "I slept a little better knowing that ship was around."
17 December 1969	*New Jersey* decommissions and returns to mothballs, joining *Iowa, Missouri,* and *Wisconsin*—remaining battleships in the U.S. Navy.

Back cover:

The Battle Line.

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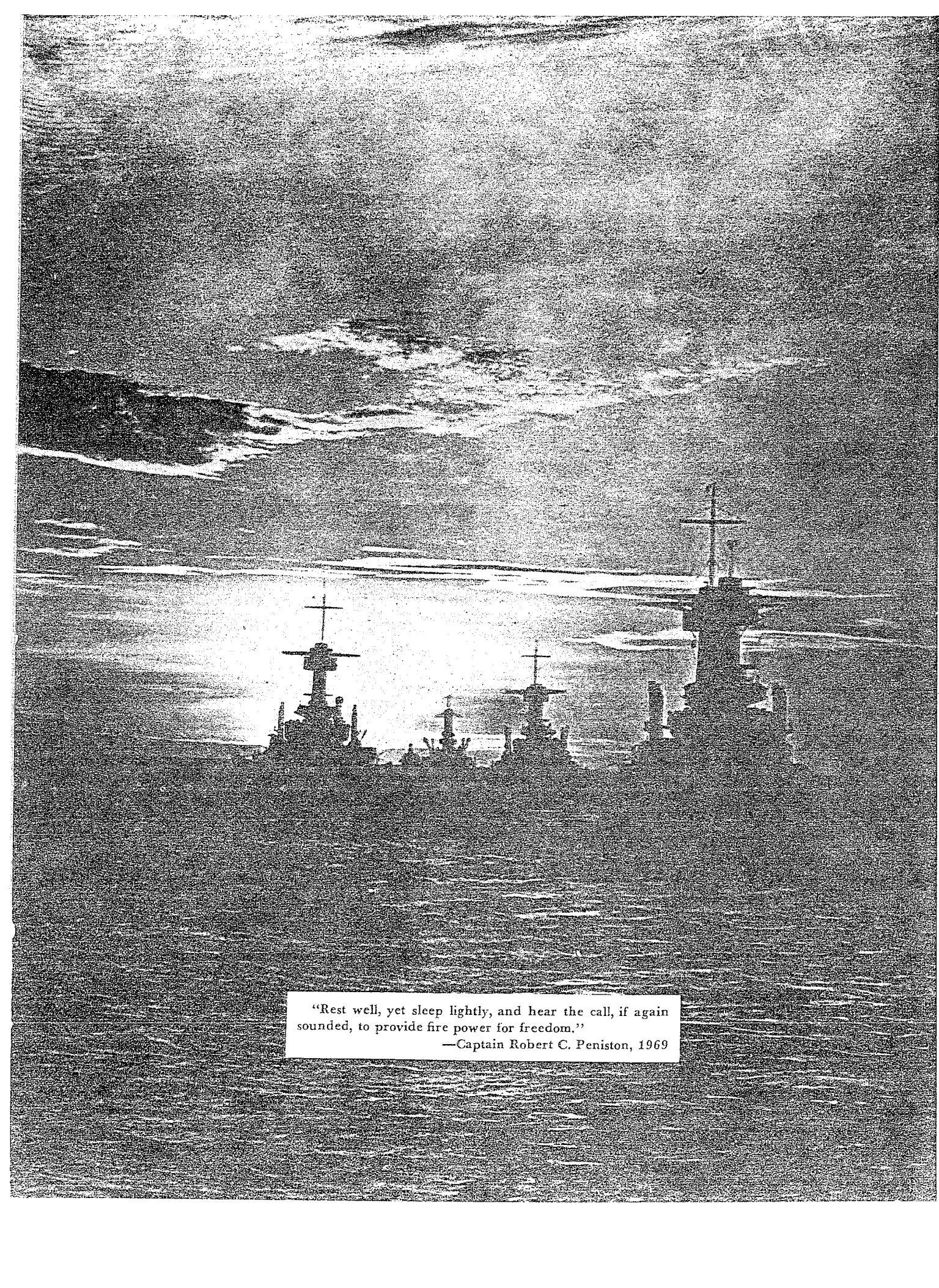

"Rest well, yet sleep lightly, and hear the call, if again sounded, to provide fire power for freedom."

—Captain Robert C. Peniston, 1969